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THE CONDITIONS WHICH MODIFY THE
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THE SKIN, AND THEIR INFLUENCE ON
TREATMENT.

BY

H. RADCLIFFE-CROCKER,

M.D. (LOND.), F.R.C.P.



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THE CONDITIONS WHICH MODIFY THE CHARACTERS OF INFLAMMATIONS OF THE SKIN, AND THEIR INFLUENCE ON TREATMENT.

BEING THE LETTSOMIAN LECTURES AT THE MEDICAL SOCIETY OF
LONDON, ON FEBRUARY 16, MARCH 2 AND 16, 1903.

BY

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REPRINTED FROM THE 'TRANSACTIONS OF THE MEDICAL SOCIETY OF LONDON,'
VOL. XXVI, 1903.

LONDON:
HARRISON AND SONS, ST. MARTIN'S LANE,
PRINTERS IN ORDINARY TO HIS MAJESTY.

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THE LETTSOMIAN LECTURES: THE CONDITIONS WHICH MODIFY THE CHARACTERS OF INFLAMMATIONS OF THE SKIN, AND THEIR INFLUENCE ON TREATMENT.

LECTURE I.

MR. PRESIDENT AND FELLOWS,—Let me first thank you for the honour you have done me in electing me your Lettsomian Lecturer, though when I looked down the list of my distinguished predecessors I can only say that my temerity in accepting the responsibility has weighed upon me ever since I assented to do so, and all the more so, because the time afforded for the preparation of the lectures has been much curtailed by the unexpected prolongation of a previous task.

It is just about a century ago that Dr. Robert Willan was issuing, in parts, his work on inflammations of the skin, which was published in its complete form in 1808. He was a distinguished member of this Society, and was the second recipient of the Fothergillian gold medal in 1790 for the outline of his plan for the arrangement and description of cutaneous diseases. Although there had been previous attempts by Lorry, Plenck, and Alibert to present the study of skin diseases in an intelligible form, it is not too much to say that Willan's treatise was so far in advance of its predecessors that he may be regarded as the father of modern dermatology, and that his work, from its practical character, gave the study of skin diseases an impetus which it has never lost, and it will not, I trust, therefore, be a waste of time to glance briefly at his views before I show you how the subject may be regarded at the present day. Willan looked at the matter entirely from its clinical aspect and divided inflammations of the skin into papular, scaly, vesicular, bullous, and pustular forms, the divisions depending on the most prominent clinical feature of the disease, although he was well aware that some diseases might pass from one phase to another—as papular into scaly and vesicular into pustular. For

many forms of inflammation his knowledge was not sufficient to connect different phases of the same disease together, and so they were given a different name, which our improved knowledge has shown to be unnecessary. Willan was, in fact, the Linnaeus of dermatology, and although his classification was artificial it was a very practical one, and even now we consciously or unconsciously often adopt the same division in our minds in the diagnosis of any particular case. For instance, if we have before us a vesicular eruption, if we do not at once recognise it we go over all the vesicular diseases we know of, and endeavour to fit the particular case into some known category. I do not intend to prolong the accounts of Willan's early efforts, but it was the first real attempt to analyse carefully and to arrange the skin diseases he met with according to their clinical features, and so far as actual clinical description is concerned it was so accurate that it holds good now and ever will do so. The analytical method also has been continued even to the present time, and to a more limited extent is still going on. Thus during the last 10 years more than a dozen distinct clinical forms of disease have been differentiated, and necessarily labelled, and though they are for the most part very rare affections, there can be no question that they are really separate forms of disease, and that some, like *acanthosis nigricans*, which is often associated with visceral cancer, or the so-called bronze diabetes, or the *morbus cœruleus* and *chloroma*, are intimately connected with general medicine.

It is not, however, to these new forms of disease that I desire to draw your attention in these lectures, but to present the other side of the picture—to show the progress which has been made in the last century, and is still going on, in what I may call the synthesis of disease, and how our increased clinical and pathological knowledge is grouping diseases together which we had not known to be connected; and how certain processes, either separate or combined, modify the clinical features and are modified by other conditions of the individual attacked; and I shall endeavour to show that the knowledge of those processes and conditions exercises a decided influence in the successful treatment of many eruptions.

In selecting the subject of inflammations of the skin I have also been influenced by the fact that they include more than half of all skin diseases, six out of every ten patients with skin eruptions having some form of inflammation; therefore every medical man

must have many cases come before him for diagnosis and treatment. In 10,000 of my hospital cases nearly 6,000 were inflammations, and over two-thirds of these were included under three diseases—eczema, psoriasis, and impetigo contagiosa—while five-sixths were comprised in these diseases and three others, lichen planus, erythema, and urticaria. In my private practice the total was nearly the same, but the components were in different proportions. As might be anticipated, the number of cases of contagious impetigo was small. Eczema and psoriasis still headed the list in not quite so large a proportion. Lichen planus was more than twice as frequent, while the disfiguring acnes were nearly three times the number of the hospital cases, and the erythemata and urticarias were in nearly the same proportion.

Let us first consider inflammation of the skin set up by irritants either in the course of the occupation of the individual or applied intentionally or unintentionally, in various circumstances. Irritants, judged by the kind of dermatitis which they set up, may be divided into two classes—those which are so strong that they set up a violent inflammation in any skin exposed to their action, and those of a milder character which only excite inflammation in a comparatively small number of those exposed to them, and in whom, therefore, there must be a special vulnerability, either natural or acquired. The first class are usually distinctive in so far that a practised eye can tell at once that it is an irritant dermatitis that has been present, and in many cases the actual irritant is demonstrated. Take, for instance, this drawing.* It is at once obvious that these vesicles all over the palm are due to an irritant. The yellow colour is due to aurantia, a yellow dye whose chemical name is hexa-nitro-phenyl-amine. It is much used for cheap yellow shoes and other leather goods. Apart from the colour, the abundant uniform-sized vesicles, thickly crowded but without any arrangement, stamp this as an artificial eruption quite different from any form of what may be called natural dermatitis. Contrast it, for example, with the similar lesions of a chronic vesicular and pustular sweat eruption of the palm or of acute pompholyx, where the large and variable size of the lesions is so different. Here, again, is a bullous and erythematous inflammation excited artificially by a girl, aged 12 years, with a strong caustic applied with a broad brush, presumably from a morbid desire to excite sympathy. The

* In the Lecture, drawings and plates were shown in illustration.

direction of the lesions, the brush marks being distinctly visible, sloping from without inwards, enables its character to be easily recognised. Then I show three burns which are quite distinctive in their characters, produced by Röntgen rays, which have this awkward peculiarity, that they produce no visible or sensory effect at the time and the inflammation may not set in for days, or even two or three weeks, after the last exposure. This is a great drawback to their therapeutic employment, in which it is often necessary to go on until there is a slight visible redness, which may become a sudden severe dermatitis a week or two later. In these three cases the exposures were for radiographic diagnosis of the kidney, and prolonged beyond what is necessary nowadays with improved apparatus. All the lesions were in the centre of the abdomen. Case 1 was due to an hour's exposure, and although there was some redness the next day the severer inflammation set in six days later. It took two months to heal. In the second case, there were several long exposures, and the dry black slough remained for months without alteration or separation. In the third case, healing has not been more complete than the drawing shows in six years, and this network of dilated vessels marks the original area of inflammation. The slowness of healing and this telangiectasic condition are characteristic of Röntgen-ray burns, and I have even seen telangiectasis produced without any antecedent inflammation. As regards the effects of milder irritants, the diagnosis in the absence of a history of exposure to such irritant may be, and often is, impossible, but if there have been repeated apparently causeless attacks, their primary effect being always on an exposed part may afford some clue. Perhaps one of the most frequent puzzles of this kind arises when amateur horticulturists get a severe dermatitis from exposure to some irritant plant, of which the pretty primula obconica is the most frequent offender. I have met with several cases in which pemphigus or acute eczema has been diagnosed and internal treatment and a rigid dietary have been enjoined, of course without effect.

The vulnerability of the patient, whether natural or acquired, very often increases after each attack until a sensitiveness almost incredible may be acquired. Iodoform dermatitis, to which some surgeons, as well as their patients, are liable, is a familiar example, and Dr. A. J. Hall, of Sheffield, relates a case of an analytical chemist, who acquired an idiosyncrasy with regard to phenylhydrazin-hypochloride to such an extent that the primary local

inflammation not only became general in a few hours, but the minute quantity of vapour conveyed in the clothes of an assistant who visited him at his own house, to report on his work on this substance, was enough to excite an outbreak.

There is quite a large class of trade eczemas, either from dry or wet substances, such as those seen in bricklayers, bakers, grocers, barmaids, or French polishers, of which baker's eczema is sufficient as an example, and the point I wish to emphasise is that not only is there inflammation of the part exposed, but in many of these patients a symmetrical eruption in distant parts may develop in a few days, or even hours, absolutely indistinguishable from the so-called idiopathic eczema. The outbreak is often too sudden, too widespread, and too symmetrical for the inflammation to have extended from without, and we must assume either that it is a reflex nerve disturbance of a vaso-motor character, or that it is due to micro-organisms multiplying first at the site of the dermatitis, then absorbed into the circulation, or that some toxin is developed and so absorbed and distributed. At all events, the result is that this inflammation of external origin cannot be logically separated by its external aspect from one primarily generated from within, and very often in the course it subsequently runs, though local inflammations which do not afterwards become general are, as a rule, readily amenable to treatment. Restricting for the moment eczema to its papulo-vesicular type, we have a strange confession to make—that though eczema in its varying manifestations is the commonest of all skin diseases, constituting about one-third of all forms of eruption, and has been closely studied by physicians, both general and special, for the last 100 years, yet we are still as far from agreement as to its pathology as ever. In the discussions on eczema at the Paris Congress of 1900 the consensus of opinion undoubtedly was that in the papulo-vesicular inflammations of the skin which are universally included under eczema no specific organism could be considered as its cause, and certainly not the morococcus of Unna, which was generally considered to be a modification of the common staphylococcus pyogenes albus, which is universally present in the skin, and under ordinary conditions is a harmless organism. Moreover, some of the best bacteriologists showed that eczema vesicles could and did exist in which the fluid contents were absolutely free from organisms, though, on the other hand, Galloway showed that the universal staphylococcus pyogenes

albus might exist in uncomplicated and early lesions of papulo-vesicular eczema, as, indeed, it exists in the normal skin also. We must therefore conclude that these organisms are not of themselves sufficient to produce a papulo-vesicular dermatitis, but it is highly probable that given certain conditions, such as gouty or other cause of faulty assimilation, the action of an irritant on the skin in a predisposed person, a nerve shock, either purely mental, such as a great grief, worry, or anxiety, or a physical shock, such as a fall or strain, that these usually harmless organisms may become pathogenic and give rise to one of those forms of dermatitis to which we universally accord the name of eczema.

To the questions, therefore: Is eczema parasitic? is it a blood dyscrasia? or, is it a neurosis?—not only cannot an absolute answer be given as regards any one of these factors, but I believe it is not only the most cautious attitude, but the one which will lead to the soundest and most successful practice, if, instead of tying our hands by adhering to any one theory, we allow that all these factors may, and often do, have some share, and that our endeavour should be to estimate what proportion these several factors may play in any particular case. If we try to do this intelligently we shall have to recognise that our patient is not a mere test tube in which we have only to neutralise the uric acid in order to cure his eczema, or that if we kill the hypothetical germ the inflammation will forthwith cease, and still less shall we rely upon arsenic as the panacea for all cutaneous woes, and find too often that while the skin irritation is as rampant as ever, we have set up a gastric irritation which may give some trouble to subdue.

While, then, it cannot be shown that any special organism can of itself produce this papulo-vesicular type of dermatitis, yet when once the process is started, pus cocci, whether the staphylococcus aureus or the streptococcus pyogenes, can and do modify the form of inflammation presented to us, though it may still be included under the name of eczema. In some cases, their presence is probably due to the cultivation into virulence of previously harmless organisms, in others by secondary invasion. It is this microbic influence I now propose to consider. If we compare a vesicular discharging eczema of the face and arm with a pustular form of the same regions the differences are very striking, and all the superadded crusting is entirely due to the pus cocci invasion. Impetiginous eczema, as it was formerly called, was regarded as

of a severe and formidable character, and it may be so if neglected, while, on the other hand, if its nature be understood it is readily amenable to treatment planned to destroy the pus cocci, by which the inflammation may be reduced to its simpler uncomplicated character, and the whole inflammatory process will sometimes be subdued. All that is necessary is to soften and to remove the crusts with carbolised oil, alkaline compresses, or boric acid starch poultices, and then to apply some such ointment as iodoform 10 grains, and unguentum zinci oxidi 1 ounce, which is only an example of a whole legion of similar applications. There is, on the other hand, a large class of inflammations of the skin and its appendages entirely due to pus cocci, with or without other organisms, of which the following is a list in tabular form according to the most modern views :—

Staphylococcus aureus, albus, citreus.	{	Boils.
		Carbuncles.
		Coccogenic sycosis.
		Lupoid sycosis.
		Impetigo of Bockhardt and secondarily in other forms.
		Quinquaud's "folliculitis decalvans."
		Dermatitis papillaris capillitii and probably other forms of pustular folliculitis.
		Pemphigus neonatorum.
		Pemphigus contagiosus.
		Cutaneous abscesses.
		Superficial whitlows.
		Erysipelas.
		Granuloma pyogenicum and other papillary growths.
		Acne varioliformis seu necrotica.
Streptococcus pyogenes of Fehleisen.	{	Impetigo contagiosa and its varieties, including ecthyma but excepting Bockhardt's.
		Erysipelas.
		Erysipeloid.
		Superficial whitlows.

It is not to be inferred that this table covers the whole ground of pustular inflammations, for there are other organisms which can excite pustular lesions without the intervention of pus cocci, such as the trichophyton megalosporon, blastomyces, the tubercle bacillus, &c. It will also be observed that erysipelas may be produced by either streptococci or staphylococci, but the streptococcus of Fehleisen is the usual organism. Further, it is contended that some lesions are produced by a mixture of the staphylococcus

and streptococcus. Thus it is said that impetigo contagiosa due to the streptococcus pyogenes of Fehleisen may be invaded and modified by the staphylococcus aureus, but this is still a controverted assertion and the point is of academic interest, as the line of treatment would be unaltered even if the statement be true. Many of these follicular pustules are the affection which is known as the impetigo of Bockhardt, who was among the earliest to identify staphylococcus aureus as its cause. It differs from ordinary impetigo contagiosa in being always pustular from the first, and in being a folliculitis connected with the hairs, most commonly of the scalp, where it may come on either as a crop of follicular pustules, or it may attack primarily or secondarily the neck, face, back, buttocks, or thighs. I have gone out of my way to describe this condition, because, according to Sabouraud, it is always the precursor of boils, sometimes leads to abscesses, and secondarily invades the streptococcal form of impetigo contagiosa. Although I think Sabouraud is too sweeping in his assertions that this form of impetigo always precedes boils, it is certainly a frequent concomitant, and it is of great importance that it should be cured as soon as possible. As a warning not to let pustular affections alone, I have seen a streptococcal impetigo following vaccination, which was allowed to go on with inadequate treatment, lead to a rapidly spreading erysipelas over a great part of the body, which endangered the child's life, and gave as much anxiety to the medical attendant as it did to the parent.

In all these diseases, the realisation of the fact that pus organisms are the *fons et origo mali* is essential to successful treatment. The local destruction as soon as possible of these organisms is the key to stopping boils and carbuncles, not only at the moment by preventing their further development, but still more in stopping the supply of future boils. Thus, subcutaneous injection of a 1 in 30 solution of carbolic acid round a carbuncle will stop its extension, while in the case of boils, if each boil is at once opened and disinfected with 1 in 40 carbolic solution, not only do the lesions heal more rapidly, but in a short time fresh boils cease to appear. Consider for a moment what an immense practical gain this is. There is a definite aim in the treatment, a known organism which can be fought successfully even when the liability to boils has been going on for months or years. But to do this the lesions must be attacked at the earliest possible stage, as the pus cocci may have spread beyond the site of a fully-developed boil before it is opened. Every pustule,

however small or however superficial, should be at once opened, thoroughly disinfected, and in the case of these small lesions the patient can often be instructed what to do for himself, as time is important, and 24 hours' delay may cause the failure of prophylactic treatment as far as that particular boil is concerned.

I propose only to draw attention to two other of these primary pus cocci affections before I pass on to another form of dermatitis. One of these is pemphigus neonatorum. This, as its name implies, is an affection which attacks newly-born infants in the first week or two of life. It occurs in the form of blebs from one-eighth to half an inch in diameter, usually with pellucid contents, and very frequently begins about the genitals and spreads slowly or rapidly over a large area. It is sometimes mistaken for a syphilide, but it is not pustular from the first, does not especially attack the hands and feet, and the child is not as a rule cachectic; moreover, if properly treated, it is benign and short in its course. For several years past Pernet, Nabarro, and others from cases in my clinique have obtained pure cultures of staphylococcus aureus both in solid and liquid media, but the streptococcus has also been found by some observers. These cases are specially frequent among the poor, where defective drains and similar unhygienic conditions prevail, and the disease was often endemic in lying-in institutions before modern antisepticism was practised. All that is usually required is to remove the child from bad surroundings, and dust on freely a powder of boric acid 10 per cent. with zinc and starch. But in neglected cases, or where the affection is derived from the mother, who is suffering from puerperal fever, a general and fatal septicæmia may result.

Another class of pus organism diseases which are not yet generally so recognised are the fungating papillary growths which are apt to form in all chronic suppurative surfaces, and after some acute suppurations. They are all varieties of pyogenic granuloma, but have received different names according to the underlying conditions on which they develop. Thus there may be a papillary growth on a chronic ulcerating syphilide, or a similar development on a scrofulous sore, usually called lupus papillomatosus. Another form occurs in the folds of the axillæ and groins in pemphigus vegetans. The fungation, sometimes seen in coccogenic sycosis, is entirely due, in my opinion, to pus cocci. Of late years a supposed new disease has been described and called botryomycosis hominis;

veterinary surgeons first gave the name to a fungating granuloma seen after castrating various animals, and it was wrongly thought to be a botryomycosis. As it occurs in man, it is usually seen after suppuration on the palmar surface of the hand, and is now pretty generally acknowledged to be due to pus cocci infection, and only a pedicled tumour-like exaggeration of what used to be called proud-flesh. Ligature and iodoform speedily cure it, and all the conditions I have mentioned, to which may be added the granuloma inguinale tropicum and its home imitators, may also be cured on similar principles. Finally, I would add that, in my opinion, although I cannot give definite proof, hypertrophic scars such as follow burns, vaccination sometimes, and other slow-healing sores, are also the result of pus cocci invasion, and that if these organisms were excluded during the healing process no such scar thickening would result.

Thus we find the same organisms producing such divers lesions as bullæ, superficial and deep pustules, boils, carbuncles, fungating granulations and keloidal thickening of scars, and various forms of folliculitis—a very important generalisation therefore which should exercise a strong influence on our practice. Note, too, how far it takes us from Willan's morphological classification founded on primary lesions. The shape the lesions take depends on the anatomical position of these pus organisms in the skin, not on the nature of the organism itself; and even pus, which is present in nearly all lesions, is absent in pemphigus neonatorum. The recognition of their common origin therefore is entirely due to modern pathological research, and holds out promise of still more fruit to be garnered by similar investigations in other directions.

I have shown how a local irritant on a predisposed person may excite an eczema, and how the invasion of pus cocci on the dermatitis may modify it, and if they are conveyed and inoculated on to other parts of the skin the numerous and even dangerous conditions they may arouse. I wish now to direct attention to the modifications a dermatitis may undergo if it is excited on what may be called a seborrhœic basis. These are generally admitted to be of bacillary origin, but the term seborrhœa requires a little explanation, as there has been a good deal of controversy about it of late years. As we know, its primary meaning is an increase of the secretion of sebaceous glands, and, according to the strictest interpretation, only cases with an excess of oiliness of the scalp or skin come under this

term, and even of this Unna and his school say that the oiliness comes from the sweat glands rather than from the sebaceous glands. This view has been strongly combated, and is losing ground. Sabouraud states that seborrhœa oleosa is due to the presence of his special seborrhœic micro-bacillus in the sebaceous glands, and that it is also the cause of the comedo, which is a cystic formation round these micro-bacilli producing the familiar primitive fatty plug. But in addition to this excess of oiliness, which may be seen both on the face and scalp, and is a source of great annoyance to the patient, a still more common condition is to see the scalp covered, more or less, with a firm fatty incrustation, varying from soft yellow wax to a scaliness of a more or less greasy character. This has also hitherto been included under the term seborrhœa, and it is convenient clinically, though not quite correct to do so still. When it is scraped off the skin beneath is perfectly white, and it may go on for years without clinical signs of inflammation, nevertheless microscopically there is a dry catarrh of the skin, and the firm secretion is really a mixture of fat with epithelial cells derived chiefly, if not entirely, from the horny layers of the epidermis. It is therefore a fatty pityriasis of the scalp due, it is said, to Malassez's bottle bacillus. Unna's "morococcus" is, in his opinion, the cause of both seborrhœa in its most extended sense and also of the various obviously inflammatory affections which spring from it: while Sabouraud, more correctly, I think, regards the seborrhœic micro-bacillus as the primary cause of the true seborrhœa oleosa, and considers the fatty pityriasis to be due to the combination of the bottle and seborrhœic micro-bacillus, while the secondary invasion of staphylococcus aureus or a grey-coloured coccus produces various inflammations which may be included under the convenient term "seborrhœoides." We need not decide whether this view is rigidly correct, the important point to remember is that the "seborrhœas," both oily and firm, are affections due to one or more micro-organisms, and are not the trivial conditions they appear to be to most persons. For unless there is an active dermatitis either on the scalp or glabrous skin the patient rarely comes complaining of an oily or scurfy head, but only of the hair coming out, so that he is threatened with baldness, and in nine cases out of ten this defluvium capillorum is the result of seborrhœa. It is not my intention to go minutely into this subject, which would require a lecture to itself, but to point out the principles of treatment

which a more intelligent knowledge of the subject has suggested and of which experience has confirmed the value. In former days, not very long removed from the best of us and still existing in many medical minds, the one idea was that falling of the hair was due to debility and feeble nutrition, and the universal practice was to give tonics and apply cantharides and other stimulants locally to improve the circulation. Of course, there are cases after fevers and other serious illnesses which require, or, at all events, do well with, such treatment, but they form a very small proportion of the cases, and the recognition of the microbic origin of the disease, while it should not make us neglect the investigation of the general health, should lead to the use of microbicide applications, for if the microbes are destroyed the chief obstruction to the growth of the hair is removed, and the hair grows readily enough unless the follicles and papillæ are too much damaged to recover. Preliminary to this is the removal of the oily or fatty layer by means of soft-soap applications, which may be combined with antiseptics such as thymol or carbolic acid. Afterwards the application of such microbicides as resorcin, sulphur, mercurials, iodine, &c., are usually successful. These are only examples of the kind of application experience has taught to be most efficacious in destroying the seborrhœic micro-bacillus, and these or similar drugs were used long before Sabouraud's observations gave a more lucid explanation of the process than had previously been afforded by Malassez's, Elliot's, or even Unna's observations.

In addition to stopping the fall of the hair and paving the way to its restoration, the cure of seborrhœa takes away what I have been insisting on as a strongly predisposing factor in the production of active inflammation of the skin, either by its own microbe taking an increased pathogenic activity or by its offering a favourable nidus for the cultivation of other germs, especially staphylococci and streptococci. This is all the more important if the patient has had previous attacks of dermatitis, either of this type or other types, as one of the places of least resistance is thus removed.

Let me give an instance, as illustrated in this plate.* This woman, aged 50 years, had had seborrhœic pityriasis capitis for years, with no other symptoms beyond occasional slight itching and a gradual defluvium capillorum which had left very little hair.

* Author's Atlas, Plate LXXX.

One day she learnt that her husband, whom she imagined to be in prosperous circumstances, was a bankrupt, and as one consequence a very active inflammation of the scalp supervened which is depicted here on the scalp, but her hands were also inflamed very much as in the plate, though, as a matter of fact, the drawing was not taken from her hand; further, the matrix of the nails became involved and the nails themselves became discoloured, deformed, and hypertrophied, leading to the enormous overgrowth shown in the drawing, and in every way her condition for a long time was a very unhappy one.

The *seborrhœides* are of two classes: (1) Those which are the direct outcome of *seborrhœa*; and (2) those which are indirectly due to it. The direct ones imitate forms of non-seborrhœic dermatitis, but with distinct differences. One imitates *eczema*, but usually in a dry form, in patches which have well-defined borders, have frequently a rounded outline, sometimes definitely circular, and have especial seats of election, such as the neck, the centre of the chest and back, and the axillæ and groins, though no place can be said to be exempt. When very extensive—and it may affect nearly the whole body—it presents appearances closely resembling the pre-mycotic stage of *mycosis fungoides*, a formidable and fatal disease in which in the later stages fungating tumours develop. In the early stage of this form, there are always gaps of healthy skin, surrounded by a dry, finely scaly dermatitis with raised, well-defined borders, so that the normal skin has the appearance of being sunk below the general surface, though, of course, it is due to the morbid tissue being raised. The resemblance is so close that many cases of *mycosis fungoides* in the early stage have been diagnosed by good observers as *seborrhœides*, but the converse is not unlikely to happen, as *mycosis fungoides* is rare and unlikely to be thought of when an innocent-looking inflammation of a not very rare kind is apparently presented, and its absolute intractability to treatment may be the first circumstance to raise doubts as to the correctness of the diagnosis. The second or papular form is generally easily recognised by its localisation to the centre and upper part of the trunk, both back and front, though occasionally it goes beyond these limits. It forms small circles of closely aggregated papules with a fawn-coloured centre, and by coalescence of the component circles a very characteristic, gyrately outlined patch with brownish-yellow centre may be

produced in the inter-scapular region. This form is interesting because it was the first inflammatory disease which was recognised by Dühring to be constantly associated with *seborrhœa capitis*, and was called by him *seborrhœa corporis* long before Unna's important generalisation gave a more extended application to *seborrhœic dermatitis*. Though easily recognised, it is often difficult to cure, because while removable for a time it has a strong tendency to recur, especially if the *seborrhœa capitis* is not sufficiently treated, so that recrudescences should be looked out for and promptly dealt with. The third or psoriasiform *seborrhœide* is a fairly close imitation of psoriasis, but differs in its seat of election by attacking chiefly the axillæ and trunk instead of the limbs. The patches are as a rule less definitely circular, less scaly, the scales being more often fatty and opaque instead of dry and silvery, and while both diseases attack the scalp, true psoriasis has very little effect on the hair growth, while the *seborrhœide* produces considerable loss of hair, associated as it always is with a general *seborrhœa capitis*. These patches are very little influenced by arsenic and generally yield best to a mercurial application such as the yellow oxide or ammoniated mercury ointment or to resorcin and sulphur from 10 to 20 grains to the ounce. According to Unna, psoriasis itself is a final link in the *seborrhœic* chain, but most dermatologists do not follow him so far as that, and think that he has been led by parental fondness for the family he has done so much to create to bring too many strangers into kinship with it.

The indirectly related affections to *seborrhœa* are, according to Sabouraud, mixed infections—the pustular eruptions, *acne varioliformis*, *acneic furunculosis*, chronic *furunculosis* of the neck, *sycosis*, *acne keloid*, and *dermatitis papillaris capillitii*. These are all, he says, due to the secondary invasion of the *staphylococcus aureus* on the *seborrhœic* basis. Although this is not absolutely proved it may be accepted provisionally, and if correct it is a nearly as important generalisation as Unna's with regard to the direct scaly *seborrhœides*, and just as we find the pus cocci on an ordinary *eczematous dermatitis* profoundly modify the form of inflammation, so here the same organisms on a *seborrhœic* basis exercise a no less important modification of character and give rise to absolutely new forms of disease. It therefore opens to us new doors for investigation as to the clinical changes produced in other directions either as regards the primary conditions or the secondary invasion. Even if

this compound origin is not absolutely true, it is indisputable that pus organisms play an important rôle in these diseases, and our aim in treatment must be to get rid of them.

THE LOCAL ORIGIN OF SOME GENERAL AND SYMMETRICAL ERUPTIONS.

It is obvious that when we have to do with a general and symmetrical eruption, that this symmetry combined with a wide extent is a sign of its distribution having occurred from within outwards, while in diseases admittedly due to external parasites, such as impetigo contagiosa from pus cocci, or ringworm from the trichophyton, their asymmetry, and what we may call their haphazard distribution, are important features in their diagnosis. In certain diseases, however, it can be shown, sometimes with strong probability, sometimes with certainty, that while in the later stage or in their recurrences they are widespread and symmetrical, in the primary invasion this is not the case, and that they may commence on one side and remain so for a considerable time and then generalise symmetrically more or less rapidly from that. This mode of development is from a primary patch.

The Primary Patch.—There is a disease called pityriasis rosea to which I would call attention for a few moments. It is noteworthy because it is not very rare, but it is a disease little known to those who do not study dermatology. It may cover the whole trunk and greater part of the limbs, and in cases which develop rapidly it may be accompanied with enlarged post-sternomastoid glands, slight congestion of the fauces, and a slight rise of temperature, while the eruption is in many cases like the early papulo-scaly syphilide. It usually runs a course of from three to six weeks and then disappears spontaneously, but occasionally it lasts from three to four months. Its mode of development is very important; Brocq, a French dermatologist, first pointed out that it began as a single circular patch on some part of the trunk which slowly increased in size up to a shilling or rather larger, and in about 10 days from its first appearance began to generalise, and would often cover a large area, or even the whole body, in a few days. The explanation I would offer is that there is at first a local multiplication of microbes and then absorption takes place and rapid multiplication in the blood. I have traced the same mode of

development in more chronic diseases, especially in their first attack, but not in recurrences. Thus in the first attack of psoriasis it will be observed that there are often only one or two patches on one limb; these will enlarge peripherally, generally very slowly, and may remain for weeks or months, and in some cases for years, with very little change, and then gradually or rapidly the patches increase in number. When the increase is gradual, the patches multiply asymmetrically and often on the same side as the original patch and on any part of the limb, but when it is rapid the multiplication is bilateral and symmetrical and in the usual seats of selection—elbows, knees, and extensor aspects generally. This suggests that in the gradual multiplication fresh patches are formed by implantation of micro-organisms from without, while in the generalised cases multiplication comes from within, the microbes or their toxins from the original patches being absorbed into the circulation. In the recurrences, symmetrical and often widespread attacks occur at once, and no primary patch is observed, but patients suffering from psoriasis very often have remanets from former attacks which do not trouble them, and which they therefore allow to remain untreated, and from these a fresh outbreak often starts. In lichen planus, a similar phenomenon can often be traced. In many cases, a few chronic patches have been present for months or years and then generalisation takes place.

With regard to eczema, the evidence is not quite so definite, but, as I have already pointed out, there are many instances in which a dermatitis originated by a local irritant became general in the form of a typical acute eczema. It is obvious from this that it is very important to treat the beginning of skin diseases, and it is highly probable, in those diseases which have a primary patch, that not only would a generalised outbreak be prevented, but in a recurrent disease like psoriasis the complete removal of the early patches before the general system was infected might be the means of a real cure, so that recurrence would be prevented. Further, it shows the importance of impressing upon the patient that every fragment of disease should be removed, even in the recurrences, as it affords the best chance of preventing future attacks.

If I have been able to carry you along with me in the discussion of these various forms of dermatitis, you will now perceive that in spite of their varied morphology there are large groups with a central pathological core, so to speak, in each group which show

that the same micro-organism may produce most diverse effects according to its mode and depth of implantation, and still more according to the soil in which it is planted, and whether it is on healthy or what may be called virgin soil, or whether it is superimposed on ground which has been ploughed and harrowed by antecedent morbid conditions, whether produced or not by previous micro-organisms of a different character. While each different form of disease necessarily has a separate name, so that it may be docketed and arranged from a clinical point of view, the new conception of the relationship of these diseases founded on their pathology gives us a breadth of view that goes far beyond mere nomenclature, and will help to acquit dermatology in its modern aspects of being a mere farrago of outlandish names. It is partly for this reason that, while pointing out illustrations of many forms of diseases more or less closely allied, I have used as few names as possible, as I wish to emphasise the importance of processes rather than names, and that the same processes might in different circumstances produce very different clinical results, which, seen from a correct pathological standpoint, were recognisable as closely related members of the same family, which required the same principles of treatment, though possibly with modifications in each case to secure the full amount of efficiency.

In the directly seborrhœic inflammations, such as the papular eczemiform or psoriasiform eruptions, sulphur, resorcin, ichthyol, and thymol play an important part, but in small quantities such as 1 per cent. in the oleates of zinc or lead ointments or a mild form of mercury, such as the ammoniated or yellow oxide, 2 to 4 per cent., either singly or combined, may be rubbed in more or less vigorously, according to the degree of the inflammation. When the inflammation is more intense the treatment at first is the same as for acute vesicular eczema, but one of the drugs previously mentioned can be advantageously added at a comparatively early stage. If the inflammation is one of those in which there is a good reason to believe that pus cocci are superadded to the seborrhœic micro-bacillus then means for their destruction must be adopted, but while the principles and the drugs may be the same as in pus cocci invasion of ordinary eczema, we find in practice that it is more difficult to produce their complete extirpation, and that the closest following up of the treatment is required to prevent recrudescences of a disease which we have often scotched but not killed. Since

they are often intra-follicular, probably the pus cocci invasion goes deeper when the way has been prepared by the seborrhœic micro-bacillus, and it is therefore more difficult to produce their complete destruction; though frequently the removal of all the more superficially situated organisms will produce quiescence for weeks or months or even longer. This quiescence of germs when they are shut off from the air occurs in many diseases, and while it serves to account for many apparently causeless recurrences, it is not always intelligible why this dormancy should sometimes last so long, as the epidermic cells are supposed to be always tending to work to the surface.

Although I have hitherto spoken only of certain external conditions affecting the skin and their treatment, I do not wish it to be supposed that because modern research has revealed various micro-organisms and partially unravelled their mode of origin, invasion, and effects, we have simply to treat all these conditions by the external application of microbicides and the skin will be restored *ad integrum*—in short, that the microbe is everything and the man nothing. While I have hitherto confined my attention to this aspect of the case, I hope in my next lecture to discuss some of the conditions of the patient which influence disease, and show how they may be combated.

LECTURE II.

MR. PRESIDENT AND FELLOWS,—In my previous lecture I discussed the modifying influences of different local conditions, chiefly microbic, either singly or in combination, on the production of inflammations of the skin; and this, for the sake of clearness, was done from the local standpoint only, quite irrespectively of the individual in whom these processes were going on.

But it is not enough for the microbe to meet the man; the result depends quite as much on the kind of man as on the kind of microbe. It is a familiar fact that for the microbe to flourish, or even to get such a hold as will enable it to breed at all, there must be favourable conditions of the soil which we can sometimes recognise, while in other cases they escape us. Thus persons who are exposed to the exanthemata frequently escape the disease at one time, even when the exposure has been frequent or prolonged,

while at another very slight exposure may determine a severe attack. For example, a lady nursed her daughter through scarlet fever in October, and went away with her to the seaside during convalescence. On her return in December the mother put on a dress which she had worn whilst nursing the girl in the early stage of the disease, and contracted scarlet fever in a typical, but not severe, form. Here there was no lowered vitality to make her vulnerable, and we can only state the fact, without explanation, that she was susceptible at one time and not at the other. Very similar coincidences occur in the microbic skin diseases that we have been discussing, but at the same time there are some factors traceable in the individual which are worthy of attention. Even in such a simple matter as age there are often striking differences; thus the microbes *staphylococcus aureus* and *streptococcus pyogenes*, which may be considered together for clinical purposes, easily infect children, and suppurations, therefore, are often induced in them, which may be very free, and tend to get deep, and to infect the general system if not checked in an early stage. In a newly-born infant, if the surface layers only are invaded, the lesion is generally a bulla; while in older children *impetigo contagiosa* occurs in vesicular or pustular lesions. Adults either resist the infection altogether, or the eruption is often only an excoriation in appearance; and I cannot recall in the whole of my experience a typical *impetigo contagiosa* in a very old person. *Ecthymatous* sores may, however, occur in severely itching diseases, such as *pediculosis corporis*; but even then they are seldom abundant, though sometimes deep and severe. As regards boils and carbuncles, old people cannot claim exemption, and carbuncles are more likely to spread in them to a dangerous extent. When suppuration does occur in old people, the step from suppuration to gangrene may be a short one; fortunately, therefore, most of the forms of suppurative dermatitis in the list given in my first lecture are uncommon with them. Gangrene without previous suppuration is also apt to occur in the elderly; of this *herpes zoster*, especially of the ophthalmic division of the fifth nerve, affords frequent examples.

At the other end of the chain, infants and children under three years of age are particularly liable to multiple patches of gangrene, which may supervene upon any pustular eruption, of which the most common is *varicella*, but I have also seen it develop on an apparently harmless *miliaria*. This liability appears to cease after

the child is three years old. It is not known for certain what bacillus produces this form of gangrene, but the bacillus pyocyaneus appears to be the most probable one. Local bactericide injections check its extension, and should be employed at an early stage, or life will be endangered. Of the other deeper lesions, boils occur at any age; but carbuncles are rare in the young, fairly common in middle age, and more common still in old age. As is well known, boils and carbuncles frequently occur where other depressing influences are present, such as diabetes mellitus or sewer-gas poisoning, while in perhaps the majority there is no special departure from health unless, from their size or number, their own toxins excite septic febrile disturbance. Glycosuria is also a strongly predisposing influence to gangrene, both of small superficial areas and of whole limbs. Once successfully implanted, the evolution of boils is not stopped when the malign toxic influences are removed, though it is not infrequent to find them in abeyance even for months, and then to recommence with another succession. The only explanation which I can offer of this is the latency of germs—a frequent phenomenon in microbial diseases, and a source of perplexity and disappointment to both medical attendant and patient; too often it makes the latter unjustly dissatisfied with his medical adviser. Some of the recrudescences are probably due to the revivifying influence of toxin absorption from the intestine or other viscera, but not all of them, and it is often not possible to do more than to make a probable guess. At the same time, we should not accept too readily these theoretical explanations, and should investigate carefully all the bearings of the case. Quite recently I saw a patient who had boils in the winter, but not in the summer. On investigation I found that he took much more exercise, and lived out of town in the summer, while in winter he had to keep very closely to his profession. Further inquiry showed that there was a strong probability of sewer-gas poisoning in his private house, which he occupied very little in the summer, and the real factor, therefore, was the change of residence.

Seborrhœic inflammations are less frequent in advanced life, and cease altogether in old people. Old age, on the other hand, is a strong predisposing condition for eczema, especially in its drier forms. What appears at first to be a very trivial inflammation often spreads very rapidly over a senile skin. This is partly due to the degeneration of the senile skin, with its dryness, its

feeble innervation, and its defective nutrition generally ; and I am strongly disposed to think that secondary microbial invasion plays an important part in these cases, though its most striking feature of extreme pruritus, out of proportion to the apparent amount of dermatitis, is due to the degenerated innervation. Still more important than the senile skin is the senile condition of the viscera, with the consequent deficient kidney and liver action, and faulty elimination of waste products, as well as the imperfect assimilation of food. It is these factors which are, in my opinion, chiefly responsible for the meagre success with which we often have to be content in very old people. Nevertheless, we need not fold our hands over our patient, for treatment often meets with an unexpectedly good effect when we scarcely anticipate it. The indication is to wash out the kidneys and alimentary canal with weak alkaline waters, such as those of Contrexéville, or with simple hot water, preferably distilled, to keep the lower bowel empty, and, in short, to get as much out of the worn-out organs as medical resources permit.

There are other tissue proclivities, both congenital and acquired. The congenitally dry skin is one of these. When the patient has pronounced ichthyosis, it is readily enough recognised ; but when it is so slight as to be little more than dryness, and perhaps slight roughness in parts, it is easily overlooked, as the patient, having always had it, regards it as a normal condition, and never thinks of calling attention to it. The clue to these mild forms is that the eczema of which he complains is always worse in the cold weather. The first touch of frost often excites it, and the skin has a special tendency to chap and to crack ; there is pityriasis of the scalp, and the hair is thin, dry, and lustreless, and the other evidences of a dry skin are readily found if looked for.

It suggests a treatment in which the local applications should be of an oily or greasy character, or at least if lotions are applied they should contain a liberal proportion of glycerine. The administration of thyroid extract is sometimes advantageous, for though not producing a definite cure of the ichthyotic condition, it ameliorates it for the time being, and thus materially facilitates the cure of the eczema. The opposite condition of hyperidrosis is also a predisposing condition to certain forms of dermatitis. On the palms and soles it is a frequent factor of a form of eczema which leads to great hypertrophy of the horny layers, and then, of course, the hyperidrosis ceases. Several papular and papulo-vesicular eruptions may also be

excited when an excessive perspiration is checked by cold, such as miliaria of infants and adults, and a papulo-squamous eruption generally considered to be a form of eczema,* but really quite distinct. Acute miliary lichen planus may also supervene under similar conditions.

Another congenital condition, though less easily demonstrable, is a liability to eczema on small provocation, either from without or within, possessed by many patients. Although eczema is not actually hereditary, it is highly probable that a similarity of skin which will render the patient vulnerable is transmitted. The old French writers expressed this by saying that the patient had a dartsous diathesis, but as that term assumed a great deal while it explained nothing it has justly fallen into disuse. At the same time, like many another old theory, it expressed a certain amount of truth which it behoves us to recognise. In practice all we can do is to use such prophylactic measures as lie in our power in the direction of the removal of sources of irritation, either external or internal, and in young people to advise the parents as to their future career, the life of a sailor, for instance, being distinctly contra-indicated. When the disease is actually present the treatment would not be modified by our knowledge of this hereditary predisposition, but, of course, it would affect our prognosis of a definite cure. In psoriasis, the hereditary element is more pronounced, and if one parent is liable to psoriasis, should there be several children, one at least is almost sure to get it, but it is rare for the majority to have it, though in one family in my experience out of seven members two sisters and three brothers were victims of the disease. I should define the heredity as a tissue proclivity to grow the special microbe which, in my opinion, produces the eruption.

What we have to call "idiosyncrasy," whether congenital or acquired, exercises an important influence on the character of the eruption and its mode of evolution, and in recurring eruptions the constant character of this influence is very striking. Thus, erythema multiforme, which, as its name signifies, exhibits great diversity in the clinical features of the eruption in different persons, in its recurrences in any one individual shows remarkable constancy. If the first attack be nodular, papular or circinate, or whatever shape

* Author's Atlas, Plate XI; there described as of scborrhœic origin, but further experience suggests its being a sweat eruption.

it may take, subsequent attacks will have the same characteristics. The case of a man with an unusual form of erythema iris illustrates this well. The disease is much less frequently seen on the palms than on the backs of the hands, and the bullous forms are rare ; yet in this man, in three successive annual attacks, the disease always began on the palms and always took a bullous form.* The same fact is illustrated in the plate of psoriasis ; in this disease, the face and the palms are comparatively rarely attacked, but in one patient the face and in the other the palms and soles were invariably the parts first invaded. Again, a psoriatic or eczematous patient in whom pityriasis rubra has once supervened is extremely likely to have this rather rare disease recur, whenever the original eruption attacks him afresh, and here the knowledge of this can be turned to practical account by at once vigorously treating the primary affection and thus averting a very dangerous complication.

TOXIN ABSORPTION.

A very powerful factor, in my opinion, in the production of eruptions is the formation in the viscera and absorption from them of toxins most frequently of intestinal origin. It is true that we can rarely, in any particular case, produce conclusive evidence that this absorption has caused the disease, but from time to time cases arise in which the probability is very strong that such is the case and there is an accumulation of facts which point in this direction. Granting that intestinal toxins produce eruptions, what forms do they take ? The most frequent are varieties of erythema (morbilliform, scarlatiniform, or patchy), urticaria, eczema, and some forms of pemphigus. Here is an example :—A boy, 10 years of age, was taken ill with febrile symptoms, some suffusion of the eyes, and a little coryza, followed by a copious eruption of urticarial wheals in corymbose clusters scattered over the trunk and to a less extent on the limbs ; on the next day this disappeared and an erythematous eruption of distinctly morbilliform character came out all over the body, and the question of measles arose. I decided against this from the mode of development and from the absence of corroborative evidence (Koplik's spots were then not known), and the bowels

* Plate III, Fig. 1, of the author's Atlas shows one such attack of bullous erythema iris. Plate XXVII, Fig. 1, shows a psoriasis attacking the face in a diffuse form, and Figs. 2 and 3 the primary involvement of the palm and sole.

being confined salines and enemata were given, and large and offensive scybala were evacuated. The rash rapidly subsided and the boy quickly returned to health. Other children in the house remained well. The following case of dermatitis herpetiformis was probably of similar origin:—A clergyman, aged 78 years, in good health for his age, had an attack of gastric disturbance with diarrhoea, of which he did not know the cause. A few days later he began to have groups of flat erythematous papules on the fore-arms and abdomen, on which vesicles and bullæ developed a few days later, and a typical dermatitis herpetiformis was produced. The almost daily evolution of fresh eruptive elements led to exhaustion and death in seven weeks from the onset.

Sudden chills often appear to be, and I believe are, the exciting cause of eruptions of various kinds, erythematous, urticarial, eczematous, pityriasis rubra, and others, the variety depending more upon the patient than upon the cause. They have a widespread, usually symmetrical distribution, either from the onset or they soon acquire it. In some cases, the patient is quite well before the chill, but more frequently there is a predisposing cause already present. Here is an instance:—A lady, 26 years of age, seven months pregnant, rode outside an omnibus. The same night she had shiverings, followed the next day by a scarlatiniform erythematous eruption on the upper part of the chest, the back of the wrists, the trunk, and the inner side of the thighs. It spread up to the face and down to the legs, and was most marked at the knees, and in 48 hours from the onset it was universal. The temperature was at first 99·4° F., but it reached 101·4° with congested and swollen fauces and enlarged glands behind the sterno-mastoid. Scarlet fever was diagnosed by a physician to a fever hospital, but she had not the strawberry tongue, she did not look ill, and she was quite lively, and I came to the conclusion that it was not scarlet fever—not from the morphology of the eruption, which was typically scarlatinal, but from the mode of development and the fact of her general condition being good instead of her being profoundly ill, as she would have been in scarlet fever with that amount and intensity of eruption. Further, I had the advantage of knowing that she had had two previous attacks in connection with pregnancy, in one of which I saw her just after her confinement, when the condition of the lochia left little doubt that the rash was of septic origin; also the distribution and development were the same as in the third

attack. Her rapid recovery confirmed this opinion. In another case a policeman contracted a severe chill; this was followed by an erythematous eruption on the chest which developed into a universal pityriasis rubra. It had a prolonged course of several months, but the patient finally recovered. It is evident, therefore, that the same cause will produce totally different eruptions in different persons, and further examples of yet other diseases in illustration might be given, but the above are sufficient for our purpose. For a time there was a tendency to scoff at chills as an exciting cause of eruption and many other diseases—pneumonia, for instance, because it was a bacterial disease; but although our predecessors had not the advantage which the knowledge of modern pathology gives, they were very elose observers of facts, and these remain true though we give them a different explanation. In my opinion, the most plausible explanation is that when the surface of the body is chilled there is a sudden and extensive contraction of the blood-vessels of the skin, followed by wide dilatation, and during the latter there is a great withdrawal of blood often laden with toxin products, from the intestine most frequently, but also from other viscera such as the post-partum uterus, the liver in certain states, &c. Many of these eruptions from ehills being, therefore, really immediately due to toxin absorption, the moral is to remove as far as possible the conditions which favour the production of toxins, such as constipation and all possible sources of septicism.

In offering this explanation, I do not wish to underrate the part played by the nervous system in such cases; and, indeed, it is probable that in many diseases—urticaria, for example—the toxins act through the nervous system. I can adduce an example of even more direct action. An elderly lady, slightly gouty and distinctly asthmatic, suffered from eczema, which began in a slightly exuding patch on the right leg, and was followed by the development of a good number of patches on the limbs and trunk, consisting of roundish groups of papules and papulo-vesicles which were somewhat rebellious to treatment, but at last yielded, and only the original patch remained, owing to an unsuitable application having revived its activity. Whilst in this condition, she fell downstairs, and was, of course, much shaken; beyond a sprained ankle, she was not otherwise injured; but within three days a large number of lesions of a totally different character appeared on the trunk and limbs, especially inflamed under the breasts and groins. This new

eruption began as papules of the size of hemp-seed, with scaly apex, which enlarged peripherally into scaly discs of the size of a shilling with a central adherent crust, but there was no discharge unless the crust was rudely removed. Here, then, a nerve-shock made a complete change in the eruption, though even in this case a toxin absorption from the intestine could be invoked with a fair show of probability ; and in the following somewhat similar case, intestinal disorder was actually produced by a fall:—A carman was thrown from his seat to the ground, a distance of about 12 feet. He was, of course, much shaken, but no definite lesion was produced. Two days later he vomited repeatedly without apparent cause, and was very constipated, which was not the case before the accident. Within a week of the fall he had an eczematous outbreak on the scrotum, penis, umbilicus, and forearms, quite symmetrical, in some parts exuding, in others dry ; on the thighs, there were patches of erythema of the size of the hand, well defined, and not of the eczematous character of the rest of the eruption. He got well rapidly with saline aperients and a calamine lotion.

Such cases as these illustrate some of the great difficulties which we encounter in endeavouring to unravel the etiology of so many inflammatory eruptions. The pathogeny of an eruption is not necessarily the same in different individuals, and the problem is still more perplexing, even in the same individual, in successive attacks ; while the eruption has the same mode of onset and character, the circumstances which excited it may be quite different. Take such a disease as psoriasis : it is seen most frequently in early life ; 72 per cent. of the cases occur for the first time under 30 years of age ; and the numbers below 12 years, between 12 and 20, and between 20 and 30 years are practically equal, viz., about 24 per cent. At these ages, the disease generally attacks apparently healthy persons, and is most likely primarily microbic, at first from without, and afterwards from within, and the general health is seldom a factor. When the disease occurs for the first time between the ages of 30 and 50 years—and not more than 5 per cent. begin after that age—defective assimilation is frequently a determining cause, and may lead up to gouty manifestations. A still more important factor is rheumatoid arthritis, by many considered to be of septic origin, and this disease strongly predisposes to psoriasis. Thus, then, in the early cases the microbe was everything, and produced the disease when the powers of resistance of the organism

were presumably at their highest ; while in the cases of late commencement either the microbe could not obtain entrance, or it was powerless until the soil was modified by diseased conditions of the body itself. You must bear in mind that in all the above cases I am referring exclusively to the primary attack. Recurrences may come on at any age, and it is seldom possible to account for any one of them.

THE NERVOUS SYSTEM.

The influence of the nervous system on diseases of the skin is important, but for the most part indirect, with the sole exception of herpes zoster. Given any particular nerve lesion, you can never say that you will certainly get a corresponding skin disease. In herpes zoster, as is well known, inflammation of the posterior ganglion, through which the nerves pass which supply the skin area affected, is nearly always present ; but peripheral nerve irritation or inflammation of the trunk of a nerve may also produce it, and it is probable that even in these cases the ganglion is secondarily affected. Quite recently I saw a bricklayer, aged 70 years, who during cold weather had leaned with his left hand on some brickwork to steady himself while working with the other hand ; the left hand became numbed and cold, and a day or two later a violent attack of herpes zoster appeared on the palm of that hand as well as on the back, and extended up the forearm and half-way up the arm, with gangrenous ulceration in some parts. Herpes has also been found in connection with diseases of the posterior columns of the cord, and in the posterior nerve-roots above the ganglion. In short, while no doubt inflammation of the posterior ganglion is by far the most common cause of zoster, it may arise from any part of the nerve-chain from the posterior column of the cord to the nerve periphery.

Apart from shingles, although numerous cases of lesions of the nervous system associated with skin lesions are on record, yet the results are so diverse, even when the nerve lesion is apparently identical, that the nervous influence must be indirect, and require some other exciting factor. Moreover, in by far the majority of cases of lesions of the nervous system there is no skin eruption at all. Nevertheless, there must be innervation present, or no inflammation of the skin will be produced. This is well illustrated in the following cases of small-pox :—In a case recorded by Bouilly

and Matthieu, intercurrent small-pox occurred in a patient after section of the sciatic nerve, and the non-innervated limb remained free from eruption. On the other hand, Chevallier saw a case of small-pox in a hemiplegic patient, in whom the eruption was confluent and hæmorrhagic on the incompletely paralysed side, and discrete and normal on the healthy side. In a hemiplegic observed by Jamin de St. Just scarlet fever supervened; for two days the eruption was limited to the healthy side, and when it did attack the paralysed side it was pale and fugacious. A few years ago my colleague, Mr. Christopher Heath, excised the right elbow of a young man; when he was nearly convalescent, he went home to visit some friends, and shortly afterwards a vesicular eruption developed on the hand and forearm of the limb operated on, followed in a day or two by a more generalised eruption, and when I was asked to see him I found that he had varicella, and that the eruption was most abundant on the hand and forearm of the side operated on. The explanation of these apparently contradictory cases is not so difficult as it appears at first sight. In the first case, there was no innervation, and therefore no eruption; in the case of scarlet fever, with slight and fugacious eruption, there was a little vaso-motor influence left, but no cerebral; in the hemiplegic with small-pox cerebral influence was abolished, while the sympathetic was for the most part undamaged and unrestrained, and the eruption was therefore confluent; in hæmorrhagic small-pox both cerebral and sympathetic influences are paralysed by the poison, and there is no eruption, but only extravasation from the walls of the non-innervated vessels giving way. In the varicella case, the nervous supply was slightly damaged but not destroyed, and the eruption, instead of developing in the usual positions, came first at the place of the least resistance. The outcome of this, therefore, is that the cerebral influence is a controlling one over the vaso-motor centres, and that the functional preservation of the latter are essential factors in the production of inflammation of the skin.

In lesions of the spinal cord, bullous and vesicular eruptions are the most frequent as a sequence of inflammatory lesions of the posterior column. Less often ulcers and gangrene and vaso-motor troubles of an erythematous or urticarial character supervene, but there is no certainty about it, and even in locomotor ataxy eruptions are much more frequently absent than present. Bullous eruptions may arise where there is damaged innervation in two ways, either

from inflammation of any part of the sensory nerve path from the centre to the periphery, or from the non-protection from injuries of the part in which the innervation has been cut off. This is well seen in leprosy ; in the early stage of the nerve form, when there is inflammation of the nerve set up by the lepra bacilli, bullæ often form on the fingers and toes in the area of distribution of the neuritis associated with shooting pains. They are spontaneous, small, and numerous, and the surface is painful. In the late stage of the same disease, when the nerve is utterly destroyed by the pressure of lepra products on the nerve fibres, the bullæ are large and solitary, and appear on the non-innervated area after slight injury or exposure to cold or heat, of which the patient is usually unconscious, as the part is anæsthetic. When the nerve interference is partial from an injury, ulceration follows the bullæ, and sometimes there is suppuration like a whitlow at the commencement.

When we consider the influence of the nervous system on the distribution of eruptions we find it rises to the highest importance. Examples of many inflammatory eruptions such as zoster, eczema, and lichen planus occur parallel to the axis of the limb with a more or less linear arrangement, but it is more frequent in some congenital affections such as ichthyosis hystrix, including the linear verrucose nævi, glossy skin, &c. In a case under the care of Brouardel, a man, 60 years of age, had a contusion of the shoulder, followed by shooting pains down the arm, and in 40 hours an eczema developed limited to the radial nerve distribution, and became rapidly confluent, but got well in a fortnight.

Of far greater practical importance is the influence of the nervous system in the distribution of eruptions in the vaso-motor areas. Such is that of the bust and arm distribution, which is most clearly demonstrated in xeroderma pigmentosa, in which it is very constant, rarely extending lower than the level of the upper portion of the sternum in front and of the nucha behind, on the upper limbs from the middle of the back of the arm behind, sloping downwards and forwards almost to the flexure of the elbow in front, while it covers the whole forearm and the back of the hand. The distribution is often seen in acute eczemas of the upper part of the body, and for some time may be confined within these limits, though it will sooner or later spread beyond them if it is not efficiently treated. The recognition of this arrangement may often be turned to practical account in cases, not infrequent, in which the inflammation

recurs again and again without apparent cause. The centre for this distribution can be got at through the cervical enlargement, and I have found that counter-irritation over it—preferably by a piece of mustard leaf, though other counter-irritants will do—has a marked controlling influence, if applied early, in sometimes preventing, and generally diminishing, the intensity of the recurrence of the accompanying pruritus. The latter symptom, which often rises to its highest intensity, and is quite maddening sometimes in eczema of the scrotum and neighbourhood, is often conspicuously relieved by similar counter-irritation over the lumbar enlargement which has a similar controlling influence over inflammations of the lower extremities as the cervical enlargement has over those of the upper. In using this method of treatment the best results are obtained when it is used just before or at the very commencement of a recurrence. It should not be used in the declining stage. A small area, but one affected by several diseases, is the centre of each cheek; it is frequently the first affected in lupus erythematosus, together, sooner or later, with the bridge of the nose; in acne rosacea, together with the centre of the face—viz., the forehead, nose, and chin—in a few cases eczema also is limited to this region; it can be influenced by counter-irritation over the mastoid on each side.

PREGNANCY.

Pregnancy is responsible for a few eruptions, but the principal and most distinctive one is the so-called “herpes gestationis,” which is now acknowledged to be a dermatitis herpetiformis with a special etiology, as precisely similar eruptions may occur both in single women and in males. Its general behaviour in relation to pregnancy is interesting. Once it has occurred in relation to this state it is almost sure to recur in every succeeding pregnancy. One of my patients had seven pregnancies in 11 years, and it attacked her at each gestation. It tends to begin earlier and earlier in the pregnancy, until sometimes it is the first intimation to the patient of her condition. With exacerbations and remissions it then continues throughout pregnancy, and shortly after parturition an attack of explosive violence occurs, and then the attacks diminish in severity until they cease altogether in from three to six weeks. Of course, they do not all run this regular course; some begin in the same month of each pregnancy, and may stop before parturition,

and may recur after it, and some begin just after pregnancy. They may also last for a very long time after parturition, or may even become chronic or recur without a fresh pregnancy. In one of my cases at the fourth attack the patient was found not to be pregnant, but to have cancer of the cervix uteri. The same kind of eruption has even been known to begin independently of pregnancy, to disappear when this occurred, and to recur when the menses appeared again, but of course this could not be called a herpes gestationis.

THE INFLUENCE OF SEASONS.

The influence of seasons on eruptions has long been recognised in certain forms of disease, such as erythema multiforme and psoriasis. Both of these diseases show a decided tendency to recur in the spring, but unfortunately they do not restrict their activity to this season, and many patients show special idiosyncrasy as to the time for recurrence. Thus in some, the onset of cold weather often excites an outbreak, but whatever the period of eruption may be that time is adhered to for the most part in future attacks. The urticaria of infants also often dies down in the winter and revives in the summer, and true prurigo also has a similar tendency, though in some cases of this disease, the season is reversed. Many other examples might be given, but there is a more interesting class which belongs especially to summer or winter, though in certain circumstances minor attacks may be produced in what may be called their off season.

Hutchinson was the first to call attention to one variety of these cases, and Bazin to another. These two varieties are pretty definite in their characters, while in many members of the group the characters of the eruption are not so defined, and their diagnosis rests rather on their general behaviour than on their morphology. Hutchinson called his first cases "summer prurigo," and there is a type which this title fits fairly well. It is distinguished by commencing in childhood, seldom before 8 years of age, and attacks the exposed parts—viz., the face, back of the hands, and wrists—the face being the part principally involved, and it is only in exceptional cases that these limits are exceeded. The primary lesion is a simple one, a flatly convex erythematous papule which soon acquires a central scab from scratching or rubbing, for the pruritus is most intense at the onset and height of the attack. However abundant the

eruption, the lesions nearly always remain discrete, and this is an important diagnostic point. Unless there are secondary pus inoculation sores, the eruption is particularly dry and rough, and suggests the use of ointments, but these, in my experience, invariably increase the irritation, and the patients tell you flatly that they cannot use them. Astringent drying lotions, especially the organic silver salts, give the most relief, and enable the patient in a great measure to abstain from scratching, and then improvement occurs, unless a fresh outbreak is produced by a direct exposure to the sun or to a bitterly cold wind. A precisely similar eruption may occur in winter in some patients, in these cases, the cold winds being the greatest provocative, and the sun's rays having less irritant action. The winter cases are much less common than the summer ones, but both the summer and winter cases continue to be liable to recurrences according to their special peculiarities year after year, or several times a year, until the patients reach adult age, when the liability gradually ceases, and it seldom persists after the age of 25 years. The skin from the repeated inflammation is left rather thickened, pallid, and sometimes superficially scarred from the repeated excoriations.

Other forms of this summer eruption are papulo-erythematous, papulo-vesicular, and vesiculo-pustular, but the most common form consists of pale red conical papules with or without a little clear fluid at the apex, which dries up and shells off, leaving minute shallow scars which in the course of time impart a mottled look to the whole face. The distribution, though always predominating on the exposed parts, is less limited than the summer prurigo type. This does not exhaust the varieties in form of these eruptions, but the general behaviour being the same in all, enables them to be recognised in spite of their different morphology.

The summer disease first described by Bazin is known by the name of *hydroa vacciniiformis seu æstivalis*. It is fortunately rare, as it produces great and permanent disfigurement and even mutilation of the face and ears, so that in the final cicatricial stage the patient looks as if he had had a severe lupus, as the nostrils and ears are partially destroyed; there may also be extensive scarring of other parts of the face. This disease generally begins in the first three years of life, and nearly all its subjects have their worst attacks almost exclusively in the summer from the direct effect of the sun, but artificial heat and cold winds will sometimes excite

it, the eruption breaking out a few hours after exposure and recurring whenever the patient is subjected to the excitement from spring to autumn, while he is comparatively free from October to February. The attacks become milder at puberty, and generally cease by the time that the patient has grown up. The majority of patients are boys, but girls sometimes suffer from this complaint. The lesions which characterise this disease are vesicles of the size of hempseed on a red base, which umbilicate and become pustular like small-pox, or spread peripherally like a vaccine pustule, and finally dry into a crust which falls off in time and leaves a pitted scar. This was the type that Bazin described as *hydroa vaecini-formis*, but these vesicles may crowd together and coalesce into flattish bullæ with a red areola, the fluid portion drying up from the centre to the periphery and forming a superficial or thick scab, in the latter case producing a deep scar, the whole process lasting two or three weeks. The chief seats of the disease are the face, ears, neck, and hands, but the unexposed parts of the limbs may be affected, while the trunk is rarely involved.

Unfortunately, as all these recurring eruptions are excited by atmospheric agents, drugs, either internally or externally, have only a palliative influence on each attack of the eruption. All our efforts must therefore be directed to induce the patient not to expose himself to the sun and wind more than can possibly be helped. The whole class are angio-neuroses with a congenital vulnerability of the skin something like that of *epidermolysis bullosa*, but that requires slight injury such as blows or friction to bring up the bulla.

INGESTA.

With the exception of certain drugs and alcohol, few ingesta affect inflammatory eruptions directly. Alcohol dilates the cutaneous capillaries and so increases the congestion, and in alcoholics who are also the subjects of psoriasis the disease is often recognisably modified; large livid red patches are produced in which the scales form too rapidly to remain adherent into crusts, though blood-stained inflammatory crusts are sometimes produced by scratching, and with the other characters make a distinctive picture indicative of the patient's habits. All forms of dermatitis, especially as regards itching, are no doubt aggravated by anything

more than a very moderate use of alcohol in its simplest forms, and some patients cannot take it at all, but there is nothing in the aspect of the skin disease alone which shows that the patient exceeds his limit, whatever that may happen to be. The effect of wines, beyond what is due to the quantity of alcohol they may contain, is only indirect. In many patients, especially those with a gouty tendency, disorders of the liver and alimentary canal are produced within a few days of taking them with a constancy which leaves no doubt of their being in the relation of cause and effect, and they may then produce an aggravation of any eruption to which the patient may be subject.

DRUG ERUPTIONS.

The subject of drug eruptions is too large to enter into in any detail. Although there are a large number of medicaments which are capable of exciting eruptions under certain conditions or in certain persons, yet in practice untoward results of this kind are rather rare. With the exception of those produced by bromides or iodides, none of these eruptions are distinctive enough to indicate the drug which has produced them, and it is only by the knowledge that the patient has had a particular drug followed by a rash that the cause and effect can be connected. Of these non-distinctive eruptions, various forms of erythema, scarlatiniform, morbilliform, or patchy, are the most frequent, but urticaria and purpura are fairly common, and next come vesicular, bullous, and pustular rashes. On all these I need not dwell; the mere enumeration of the drugs which may possibly produce them is too like a catalogue to be interesting or instructive.

With regard to the bromide and iodide eruptions the matter is on a different footing. Although sometimes like each other, the agminated forms are quite distinct from all other forms of eruption, and a positive diagnosis can generally be made, not only when there is no history of these drugs, but even when the history appears to negative such a supposition. Certain general statements may be made as to the circumstances under which they are liable to occur. It is seldom a question of dose; small doses frequently produce an eruption, while large ones may be taken with impunity. I know of a lady who took, not by my advice, 80 grains of iodide of potassium three times a day for nearly a year without apparent

injury, while the eruption shown in the plate* came out after a few 5-grain doses. Nevertheless, when the system is saturated with the drug, as happens sometimes with bromides with chronic epileptics, a violent eruption sometimes occurs without any warning, especially if there is any check to its rapid elimination. This last is the true cause of nearly all cases in adults, and if a pronounced bromide or iodide eruption occurs after moderate doses of either of these drugs, the urine should be tested and the heart examined, for it, or the kidney, or both, are almost certainly at fault. In the case just alluded to, with what looks like a bullous iodide eruption the patient had pronounced albuminuria from the smooth white kidney; so also had the man illustrated by this photograph, in which the diagnosis was made in spite of a denial that iodide had been given—the source of fallacy being that the man had taken a quack blood purifier well known to contain iodide of potassium. In another case where I was asked for a diagnosis the patient had been sent into a small-pox hospital, and advanced mitral disease was present, and was the determining factor of the eruption. A similar case has been recently recorded in one of the medical journals. Infants are especially liable to the eruptions from quite small doses, which are comparatively common since bromides have taken the place of the gum lancet, but even before the teething period, it may occur through the maternal milk when the mother is taking the drug. A point which throws one off the scent sometimes is the fact that the outbreak often occurs a week or two after the drug has been stopped, the explanation being that both bromides and iodides are diuretics, and when this action ceases soon after the drug has been stopped there may be still enough circulating in the cutaneous vessels to set up inflammation. Another misleading fact is that these drugs have a special predilection for scar tissue, and I have seen several cases in which the vaccination scars have been the first point of attack and have led to the idea that the vaccination was at fault.

I will not go into detailed descriptions of these eruptions—they are to be found in all the text-books—but I will only emphasise the fact that the most distinctive character of the bromide pustular eruption is the agmination of small pustules on a raised red plateau, derived almost entirely from the swelling and proliferation of the prickle-cell layer, and it therefore leaves no scar when it disappears,

* Plate XXXVI, author's Atlas.

unless a deep suppuration has been excited secondarily. Such a lesion is absolutely distinctive.

The pseudo-bullous iodide eruption is also distinctive; it consists of transparent raised lesions like distended but flattened bullæ crowded together in irregular areas; when the supposed bulla is pricked, however, only a small drop of fluid escapes, for the lesion is really a solid œdematous swelling of the rete cells. Besides these characteristic bromide and iodide lesions, there are several less distinctive eruptions produced by these drugs—erythema, in some cases like erythema nodosum, urticaria, purpura, of which some cases have been fatal, isolated pustules, true vesicular and bullous eruptions, which are rare, gangrene, and, in the case of iodides, anthracoid and vegetating lesions—the latter are very rare.

Iodide of potassium should not be given to persons suffering from acne rosacea, which is often much aggravated by it, or in cases of bullous eruptions such as pemphigus and dermatitis herpetiformis, as it often greatly increases the severity of the lesions, and I have seen the bullæ become hæmorrhagic, and even gangrenous, as a consequence.

GOUT.

Perhaps you are surprised that I have not given gout a primary position as an etiological modifying factor of dermatitis. I have purposely not done so for several reasons. While I do not doubt that gouty patients are easily predisposed to, or easily get, eczema and to a less extent some other forms of dermatitis, such as some forms of psoriasis which commence in middle life, some cases of pityriasis rubra, and some of the erythemata, there is no doubt that its influence has been overrated in the past by the profession, so much so that the public, who are usually a generation behind us, regard eczema and gout as almost synonymous terms, and I am not infrequently asked by anxious mothers of eczematous infants in arms whether I think they have gout in their systems. The fact is, a gouty person is one who is vulnerable to inflammations of any or all of his tissues, especially of his mucous and synovial membranes and his skin, but it is not possible to decide solely from the kind of dermatitis present whether the patient is gouty or not, and it is sound practice only to infer it when there is other evidence in himself or in his family history. No doubt if there is such evidence it is wise and right to treat such a patient by diet and medicines

calculated to combat his gouty tendency, but we must all confess how often we fail to get a satisfactory result so far as the skin is concerned, after we have done our best to fulfil the supposed indications.

Much more frequently we find in eczematous patients in middle life and beyond it, that a condition of faulty assimilation of food exists from imperfect liver action, dyspepsia of various kinds, constipation in women and its train of evil consequences, and when there is constipation you do not know where you are until you have got rid of it, at all events for a time. These conditions, too, lead up to gout if allowed to go on unchecked, and we must endeavour to modify the patient's mode of living as regards eating, drinking, and exercise. These are, however, to practitioners like yourselves familiar truisms, and I will not dwell on them further, but only ask you not to be eager to see gout in every case of eczema unless the general evidence is decidedly corroborative, and even then the real factor is often the disordered condition of the alimentary canal which is so commonly associated with the gouty state, and probably many symptoms which we ascribe to uric acid are often really due to the absorption of toxins or ptomaines from the catarrhal condition of the intestinal canal. Intestinal disinfectants, therefore, such as salol are indicated, together with such a dietary as will not excite fresh catarrh and fermentation in the food.

While I have not yet exhausted the subject of etiology as it influences the form and course of inflammations of the skin—the subject of vaccination among others being untouched—I have come to the end of my time and, I fear, of your patience, and will therefore pass on to the discussion of treatment in my next lecture.

LECTURE III.

MR. PRESIDENT AND FELLOWS,—The internal treatment of inflammatory diseases of the skin rests, so far as our knowledge permits, on the same foundation as that of other organs, viz., an accurate diagnosis and full knowledge of the etiology, pathology, and prognosis of the disease with which we have to deal. Unfortunately, the gaps in our knowledge under these heads are at least as wide as they are in any other department of medicine, and we

have to try to fill them up to the best of our ability with the help of remedies which experience has taught us to be of service in this or that form of dermatitis, whether we understand the *modus operandi* or not. I hope, however, in my previous lectures that I have afforded some assistance in estimating the factors to be considered in coming to a conclusion as to the line of procedure. So far as the treatment depends on the general principles of medicine it is not for me to presume to lecture you; I would only like to say that, being a firm believer in the frequent absorption of toxins and ptomaines from the intestines and other organs, I am as strong an advocate for clearing out the *primæ viæ* as ever our forefathers were, who with their emetics and purgatives raked their patients fore and aft so thoroughly, whatever their complaint might be, that it gave occasion for the laity to rail against the profession, as in the uncomplimentary couplet attached to the name of the distinguished physician in whose honour these lectures were founded. As their patients were for the most part gross feeders and heavy drinkers they had some excuse for their drastic procedures, while we, having more definite aims, are able to avoid the excesses of these stalwarts in medicines, and are content to remove whatever fæcal matter the intestine contains, and to diminish portal congestion, and with intestinal disinfectants and the requisite precautions as to diet endeavour to prevent the formations of fresh toxins.

For the liver and kidneys similar principles are to be carried out, and the success of many of the spas, like Contrexéville for instance, really depends on their being a method of washing out the liver, kidneys, and intestines with very dilute alkaline fluids; but copious draughts of aerated distilled water are an excellent substitute for those persons whose powers of elimination are not up to the proper standard, while their purse will not enable them to go to these spas; and sipping very hot water is also a familiar expedient, although overdone by the laity, whose zeal being not according to knowledge is only too apt to abuse the remedy of the hour by indiscriminate use.

In senile eczema and pruritus, this washing out of the liver and kidneys is especially important, and is often the means essential to success.

Arsenic.—When we come to the specifics naturally arsenic has first to be considered, both on account of its long-established position and because of its employment for all sorts and conditions of skin

eruptions by a large majority of the profession. Yet I venture to say that it is regarded by dermatologists generally as a most disappointing drug, and that its *rôle* gets more restricted as their experience widens.

How does arsenic act? Our knowledge is far from complete, but there can be little doubt that it has a direct action on the epithelial cells and also on the vaso-motor nervous system centrally or peripherally and on the periphery of the cerebro-spinal nerves. In order to get the good results without the bad we must have definite aims; its local action is best seen in the patches of chronic subacute scaly eruptions such as psoriasis and some forms of lichen planus.

That its action is really local on the diseased area for which it has an elective affinity is shown by its effect on the patches of psoriasis. While it often removes any particular patch it does not prevent the evolution of another in its neighbourhood. There is also more pigmentation left in patches treated by arsenic than in those removed in other ways. That it is not a specific in psoriasis is shown by its not being in any sense prophylactic, and if given when the eruption is evolving rapidly, so far from preventing this evolution it actually makes it come out more rapidly. It is, therefore, utterly useless for patients suffering from psoriasis to go on taking the drug year in and year out, as many do in the hope of warding off their enemy. They not only fail to do this but they bring upon themselves dangers and disfigurement from the direct effects of the drug itself. The disfigurement, as is well known, is due to a sepia brown pigmentation, which, in my opinion, is due to the actual deposition of the metal itself in the skin. When used only for a moderate time this pigmentation is limited to the area of psoriasis, for arsenic appears to pick out morbid tissue; of this I had an illustration in a gentleman suffering from psoriasis of the nails, who said to me: "Since I have taken the medicine I have had a pricking sensation at the root of the nails."

The general pigmentation induced by arsenic may be recognised by its sparing for some time the neighbourhood of the hair follicles, which appear as white dots on a dark ground, but eventually they get pigmented also. More important even than the pigmentation is the thickening of the horny layers, chiefly of the palms and soles, which ensues from its excessive use. This also is recognisable in the early stage, as it is at first a nodular thickening round the sweat orifices, or actual horny warts may be formed, but after a

time the whole surface is thickened and levelled up into a horny plate over the whole palm and sole except the arch, accompanied by, and perhaps caused by, hyperidrosis in many cases. Besides the inconvenience and unsightliness of this keratosis, it is liable, as Mr. Hutchinson first pointed out, to lead to epitheliomatous growth from these warty thickenings.

In the following case the man had psoriasis in his youth, for which much arsenic was given until he had horny hypertrophy of the palms. He had had no arsenic for 38 years, but the keratosis never went away, and one of the warty growths became epitheliomatous and was removed; it reeurred, but a wider operation cured it. That such a consequence should ensue, even so many years after the cessation of the drug, is a warning that it is not to be given indiscriminately and in a haphazard fashion, but its effects must be carefully watched and sufficient periods of rest given. At best it is a slow remedy so far as psoriasis is concerned.

In some of the worst forms of lichen acuminatus it has also been successful, but for that complaint we have now a better remedy than arsenic, its action in both this and lichen planus being probably directly on the epithelium of the diseased area. Its other action is through the nerves, and is wholly or mainly peripheral.

Recurrent angio-neuroses, such as some of the erythemata which recur at short intervals (not those which only recur seasonally), are often controlled and sometimes cured by the steady administration of arsenic in moderate doses but continued for a long time. Erythema hæmorrhagicum is one of these; in this eruption at intervals of a few days or a few weeks the patient has what appears to be an erythematous eruption in spots from a sixth of to half an inch in diameter, but they are unaffected by pressure from the onset, and some of the lesions acquire a purpuric appearance; it comes chiefly on the legs, but in a minor degree on the upper limbs. It is probably caused by a toxin acting on the vaso-motor nerves, but arsenic often controls it and may cure it. In one of my cases, a musician in an orchestra had an outbreak whenever he had been kept up very late; although I could not explain why this should be, I regarded the eruption as of vaso-motor nerve origin and gave him liquor arsenicalis in 5-minim doses, which stopped the renewal of the eruption as long as he was taking it, and ultimately cured the morbid irritability of the affected nerves. In recurring sweat eruptions it is also of great value.

The eruption illustrated by the following case was a form of miliaria exactly like the red gum on infants. The patient, a railway porter, had suffered from it for several years, whenever he got overheated, as he necessarily often did at his work; arsenic controlled and partially cured it after it had been taken for a long period, but I scarcely expect that after so many years it will be completely cured. Another recurring sweat eruption in the form of small vesicles along the sides of the fingers, from which so many people suffer in the summer, is definitely relieved by arsenic. So also is chronic urticaria not dependent on digestive disturbances, but in this the dose should be small and long continued. Pemphigus and dermatitis herpetiformis are generally controlled and sometimes cured by arsenic. But I am far from regarding it a specific for pemphigus as Mr. Hutchinson does, as it often fails conspicuously even to have a controlling effect. In all these the action is through the nervous system, chiefly the vaso-motor, either peripheral or central. Its preventive influence over bromide or iodide eruptions has already been mentioned.

While the above pretty well covers the ground in which it is beneficial or curative, its frequent indiscriminate use renders it more important to point out where it is useless or injurious. As an internal remedy for eczema in any stage I have very little faith in it except in chronic scaly patches, which can, however, be more efficiently dealt with by suitable local treatment, while in the acute and subacute discharging eczemas it is quite useless in my opinion. No doubt if it is given in every case with good local applications a fair number of cases will get well, but so most of them would if burnt sugar and water were given with the same local treatment, but in none of the obstinately recurring cases, without any apparent cause for the exacerbation, which often baffle us for a long time, has arsenic ever helped me in a single case that I can recollect, and I now scarcely ever give it in eczema, either acute or chronic. It should never be given where there is already gastric irritation, as in acne rosacea, urticaria from dyspepsia, &c. It should not be given in the evolving stage of psoriasis, and, as a rule, not when there is great hyperæmia, as it often aggravates the pruritus and congestion: indeed, with the exception of bullous eruptions, it is seldom advantageous in acute inflammations of the skin and often acts injuriously.

A few words as to its administration. It may, as you know, be given as a liquid, a solid in pills, or by injections. Injections are

painful and are only, in my opinion, to be given for sarcomata ; the Asiatic pills, which are arsenious acid and black pepper, are much used on the continent and are useful if the patient has to be out all day, but, on the whole, the advantages are all in favour of the time-honoured Fowler's solution, which can be given freely diluted, and is thus less likely to give rise to gastro-intestinal irritation. The cacodylate of soda is still on its trial. It is by no means certain that its action is the same as the other forms of arsenic, and it is not free from danger in the recommended doses. On the whole, I should reserve it for hypodermic injection for sarcoma, in which one is justified in taking some experimental risks. All the other preparations of arsenic are, I think, inferior to Fowler's solution. The arseniate of soda is said to be more easily tolerated by the stomach, but probably the real explanation is that the atomic weight of sodium is less than that of potash and requires less arsenious acid to satisfy a given quantity of it, so that 10 minims of liquor sodæ arseniatis only contain the same amount of arsenious acid as there is in 5 minims of Fowler's solution. In no case should it be given for many months in succession without intervals from time to time being afforded for its elimination.

SALICIN AND SALICYLATES.

These drugs were introduced by myself into dermatology, and I can state with confidence that they have been conspicuously successful in a large number of skin diseases. At first I used the salicylate of soda, but finding that it disagreed with a rather large proportion of patients, I tried salicin and found it quite as good as far as its action on the skin went, while it seldom disagreed with the digestive or other organs. It has not so much depressing action as the salicylates, very rarely produces headache, and may always be combined with *nux vomica* if there should be any depression. In very exceptional cases, I have seen it produce an erythema which is more frequently seen with the salicylates. Salicin is said to break up in the organism into salicylic and carbolic acid, and it is possible that these substances in a nascent condition in the blood may either exercise microbicide action or at all events hinder the multiplication and development of microbes. At all events, it is most likely to be successful in those diseases in which there is a strong probability that they are of microbic origin, such as psoriasis.

lichen planus, and pityriasis rosea. On the other hand, it has no direct effect on any form of eczema, and I only give it in that disease when I want to produce an effect on the liver, and then the soda salt is preferable. Speaking generally, it covers the same ground as arsenic, and has in some respects advantages over that drug. Thus it may be given during the developing stage of psoriasis, and often checks the outbreak, while I have never seen it increase the development as arsenic often does. In giving it in psoriasis it must be given in full doses, 15 grains three times a day to begin with, and it may be increased to 20 or even to 30 grains three times a day, though I seldom give more than $22\frac{1}{2}$ grains; in these doses, in some patients, it produces constipation, which has to be counteracted. It succeeds best in hyperæmic and extensive outbreaks, is of but little use when there are only a few chronic patches, and has not any striking effect on the scalp eruption. It appears to act by diminishing the hyperæmia; the patches become paler, the scales become looser and gradually cease to re-form, and the patch becomes a circle, and even this gets broken up and only fragments remain, which are best removed by local means. Its effects, of course, are best seen when no local treatment is simultaneously employed, but if local applications are used they should not be of a stimulating character, otherwise the internal and external medicaments are opposing each other. In the great majority of cases its action is much quicker, and it is successful in a larger proportion of cases than arsenic.

Of course the drug does not succeed in all cases—nothing does; but in 100 consecutive cases it would be beneficial probably in 75 per cent., it would have a markedly good effect in about 50 per cent., and in from 20 to 30 per cent. would effect a cure in an extensive case in from one to three months. I do not lay these figures down as absolute, but as a general impression after a very extensive use of the drug. Some have been disappointed in its use either from prescribing it too timidly—*i.e.*, in 5-grain or 10-grain doses—or in expecting to see a striking effect result in a week or two, which is naturally exceptional, or in trying it only in a few cases and taking a few failures as an indication of its value.

In lichen planus the number of successes of salicin is not so great as in psoriasis, but that may also be said of arsenic or biniodide of mercury, but in some of the acute generalised cases, the result has often been most satisfactory and even rapid, as in the following case,

where the disease was very acute and severe:—A man, aged 30 years, was taken to University College Hospital by Dr. Percy Rose, of Barking, with general lichen planus which had developed rapidly latterly, but had been present to some extent for eight months. It involved every region of the body, affected the mouth extensively, and was complicated by keratosis palmæ and hyperidrosis. He had taken Fowler's solution in 5-minim doses for a month without any improvement before he went to the hospital. Salicin in 15-grain doses three times a day, which in a week was raised to 20 grains, was prescribed without any local application. Improvement was manifest in the first week, the enormously thickened skin of the palms and soles was shed in large pieces in three weeks, and in about six weeks, the whole eruption had disappeared except that, as is usual, there was deep pigmentation on the site of the lesions. Such a rapid cure is exceptional, as the course of lichen planus is usually excessively slow in its involution though often rapid in evolution, and no doubt there are many cases which are unaffected by salicin, but the same may be said of any method; the failures are more numerous than the successes for any one drug.

Of pityriasis rosea it may be said that it tends to get well of itself in from four to six weeks, so that it is difficult to say that a cure is the result of treatment or spontaneous; but there are cases which go on much longer, even several months, and I have repeatedly seen in such cases, involution commence in a week or two after commencing the salicin. This could scarcely be an accidental coincidence. With regard to bullous eruptions, I have repeatedly known salicin to be successful both in pemphigus and in dermatitis herpetiformis, even when arsenic has been well tried and failed; so it is always worth while to administer it in both these diseases, which are sometimes most resistant to every treatment, and can perhaps only be controlled so long as the drug is being administered. It has also been conspicuously successful in some of the more acute or widespread forms of lupus erythematosus, which, although not a simple dermatitis, resembles one in many of its features. This does not exhaust all the possibilities of the drug, or set of drugs, which I regard with more confidence than arsenic for the diseases which I have mentioned, for its range is wider and it gives a higher percentage of successes, but, like other drugs, it has its failures.

It is probable that similar drugs which break up in the organism may be found to give similar effects. Aspirin, the acetic ester of salicylic acid, is one of these, and I have had a few cases of psoriasis successfully treated by this drug, which has been introduced as a rival to the salicylates. In a very obstinate and extensive case, with gouty swelling of the finger joints, not only did almost all the psoriasis clear up, but the deformity of the fingers improved considerably. Its slight solubility (5 grains to the ounce) and the comparatively high price, militate against its extensive employment.

THYROID EXTRACT.

Thyroid extract, which was first brought prominently into notice by Dr. Byrom Bramwell for skin eruptions, came in with such a flourish of trumpets that it raised too great expectations, and in the disappointment which followed the reaction has been too great, and it is almost lost sight of as a therapeutic agent in dermatology. This, I think, is a pity; although it must be content with a lower place than was at one time expected, it is a most valuable therapeutic agent. It was for psoriasis that most was expected of it, and no doubt some very striking results were obtained; but the uncertainty of its action, not only in different cases, but in different attacks in the same patient, and that it was not always content with failing, but actually did harm in some instances, has made many throw it aside. The evils inherent in the substance itself can be avoided by not giving it to elderly people or to persons with weak hearts, by beginning with a single 5-grain dose and taking two or three weeks to reach 15 grains a day, and never to give more to patients who are not under constant observation. In psoriasis it should never be given when the disease is evolving, as I have seen the most disastrous development in such cases. In young, robust persons with an extensive eruption which has reached its full development, it sometimes acts literally "like a charm," and I have seen the eruption disappear more quickly than under any other internal treatment; but it must be admitted that such cases are exceptional, and that it too often disappoints where *à priori* it might be reasonably expected to succeed.

There are other diseases in which thyroid extract is distinctly advantageous. Willan's and Hebra's prurigo is one of these; eczema on a congenitally ichthyotic skin, as I have previously mentioned; in lichen acuminatus I have found it conspicuously

successful; and finally, although it does not come under dermatitis, it has more beneficial effect on lupus vulgaris than any internal medication that has ever been given. It is a substance, therefore, to be borne in mind as a valuable medicament in selected cases, if given with due precaution and watchfulness to prevent thyroidism. Patients no doubt get thinner when taking it, and they require a holiday every now and then if it is to be given for a long period, as in myxœdema and lupus vulgaris.

ICHTHYOL.

This drug is given internally to a limited extent, and has been sometimes beneficial in some hyperæmic diseases like acne rosacea. I have found it chiefly useful in some of the sweat inflammations. Its successes are not very numerous or conspicuous, but it is one of those drugs which break up in the organism, and its sulphur constituent is eliminated by the skin, of which an ocular proof will be afforded if a lead lotion is applied while the patient is taking ichthyol, the pores of the skin speedily turning black from the sulphur of the ichthyol combining with the lead lotion.

QUININE.

There is one more drug of which I have a high opinion in certain forms of extensive dermatitis, and that is quinine. It must be given in large doses, (from 5 to 10 grains), and the method of administration is important. This should be in an effervescing citrate of potash mixture. In this way it rarely disagrees or produces cinchonism if the bowels are kept open; while if given in the ordinary way with sulphuric acid, large doses are seldom tolerated. I prescribe it chiefly where there is extensive or universal dermatitis, especially in pityriasis rubra. Payne advocates it in lupus erythematosus, when acute or widespread. It is an alternative drug in some cases of pemphigus and dermatitis herpetiformis, when arsenic and salicin have failed, but it is not equal to either of those drugs in the number of cases for which it is suitable.

SUBCUTANEOUS AND INTRA-MUSCULAR INJECTIONS.

Subcutaneous and intra-muscular injections of various drugs obtain a growing importance in dermato-therapeutics. Salts of mercury hold the first place, and no doubt as yet their chief

employment is found in syphilis and leprosy ; but I will not dwell on their value for these diseases, as they do not come within the scope of these lectures. But in some obstinate and extensive cases of psoriasis, when other internal medication has failed, and where the patient cannot lie up for efficient local treatment, I have had very gratifying success with injections of mercury salts. These injections should always be intra-muscular, and not subcutaneous ; the latter are much more painful, and are liable to produce sloughs at the site of injection. In my opinion the soluble salts are preferable, as they are less liable to produce severe and even dangerous salivation than the insoluble salts, with which there have been several accidents, although really a very small number compared to the thousands of injections given.

The perchloride and sozoiodolate are the salts chiefly employed ; the latter is the best, as it is equally efficacious and less painful. The dose is a quarter of a grain dissolved by the aid of one-third of a grain of iodide of sodium in 20 minims of water, injected into the buttocks once or twice a week. As the biniodide and perchloride of mercury by the mouth have proved useful in lichen planus, probably intra-muscular injections would be still more efficacious, but they should not be employed until other means have been thoroughly tried, as the injections are painful and would probably not be tolerated unless the patient had tried and failed to get relief by other treatment. Mercurial injections have also been used for lupus vulgaris with some measure of success, but there are other means at our disposal for this disease.

Arsenical injections have been occasionally used for chronic inflammations of the skin, such as would be benefited by the same drug given by the mouth, but the results have not been sufficiently good to warrant their being recommended, and their only use seems to be for sarcomatous tumours as first recommended by Köbner. Mycosis fungoides has also undergone temporary amelioration with them. The potash salt is much more painful than the soda salt, and the latter therefore is the one to be preferred, and here also intra-muscular injections are less painful than subcutaneous ones.

Cacodylate of soda and the similar body called arrhénal have not, as Professor Fraser has shown, justified their laudatory introduction.

Subcutaneous injections of thiosinimin were first recommended by Hans Hebra for lupus vulgaris, but other methods were found to be

superior, and it was soon abandoned for that; it has, however, been found remarkably useful for keloids and hypertrophic scars, and I can bear personal testimony to its value. Here is an example:—A boy, aged 14 years, was burnt by a chemical; a keloid followed in a month or so, oval in shape, $1\frac{1}{2}$ inches long, and situated on the forearm. It was excised by the family medical attendant and primary union obtained, but a keloid soon formed in a line with the incision and in the suture holes, and in three months from the operation was $3\frac{1}{2}$ inches long and $\frac{1}{2}$ inch wide, and was getting more prominent and irritable; weekly injections of a 10 per cent. thiosinimin solution were recommended, and in two months, after seven injections, the major growth was flattened and had lost its purplish tint, and several of the suture keloids had disappeared.

In hypertrophic scars I have had very good results. In a girl with contracted thickened bands across the elbow of long standing and consequent on a burn, the thickening entirely disappeared and the mobility of the joint was in great part restored. In another case in which there was a band all round the lower jaw, raised up a third of an inch with numerous projecting spur-like processes, very considerable improvement was produced, the growth being much flattened, but the patient was unable to continue to attend the hospital, so that the cure was incomplete. Its mode of action I am unable to explain. The 10 per cent. solution in glycerine and water usually recommended cannot be kept in permanent solution, but 8 per cent. solution with 20 per cent. glycerine and the rest water, the solution being effected with a gentle heat, remains dissolved. The injections are well borne by the patients, and are not, therefore, very painful, nor do they produce any bad effects, local or general, in my experience.

But sufficient has been said upon specifics, and it should be remembered that in a large proportion of cases their administration is an indication of failure to understand the true etiology and pathology of the disease, and that we are driven therefore to resort to empirical remedies. This is not a reason against them if we have first used all our available knowledge in the investigation of the case on which to found a rational treatment, but this is unfortunately possible only in a very limited number of cases, and very often in the history of medicine the empirical remedy has justified its use by its curative successes long before the theory of its action was understood; the use of quinine in malaria is a

striking example. Still, we are beginning to get a glimpse of the *modus operandi* of these so-called specifics; sometimes we can fairly regard them as microbicides in the blood, or as antidotes to anti-toxins, or as preventing the formation of these toxins, and in proportion as we are able to use these drugs on a rational basis our successes in their employment will increase, while it is an immense satisfaction to find that having made a correct pathological diagnosis, we are able to ensure that the treatment founded upon it has also been the correct one.

There are certain general measures to be adopted in all forms of acute and widespread inflammation of the skin quite irrespective of what the diagnosis may be; first of these come rest and equability of temperature. Although urticaria is not a true dermatitis, it is not far off from the early stage of it and may be used as an illustration of it. Jacquet enveloped in cotton wool one arm only of an urticarial patient; the urticaria came out as before on the uncovered arm, while there was none on the covered one. The importance and value of putting patients in bed who have an extensive dermatitis was borne in upon me very early in my career. Wishing to observe the influence of certain drugs on different inflammations of the skin, I took the patients into the hospital and gave them no active medication until the influence of transference from their home to the hospital had been eliminated, and I found to my surprise that in many cases the improvement was so great that no trial of the drug could take place. The case of a postman with a general erythematous eruption which had been present for several months without improvement made a strong impression on my mind. I put him in bed without any other treatment, and in three days the eruption disappeared and did not recur.

The true prurigo of Willan and Hebra, which is proverbial for its obstinacy, is at once relieved by placing the patient in bed, and in a week some of the most severe and distressing features in a great measure will have subsided. When the whole skin is *hors de combat* as in pityriasis rubra it is not only desirable but positively imperative that the patient should be in bed, and I will not undertake the responsibility of such a case if the patient refuses to lie up completely. Some years ago a man came to me with this disease very extensive but not then universal, his face being spared. I urged him to lie up at once, but as he had an invitation to stay in luxurious quarters he said that he would defer treatment until after his

visit. Apart from his not being a very desirable visitor (for when he undressed the scales fell down like a theatrical snowstorm) I tried in vain to dissuade him from such a dangerous procrastination, and a few weeks later I heard that he had died, it was said from congestion of the kidneys. I believe that his life would have been saved if he had at once taken to his bed and been efficiently treated from the first. Even when a dermatitis is not sufficiently extensive to necessitate the patient lying up, it is often of the highest importance to avoid sudden changes of temperature, and it is a matter of common observation that in a patient with eczema, or, indeed, almost any acute dermatitis, especially on exposed parts, that to go out in a north-east wind or to ride in an open carriage on a windy day is an almost certain way of producing an exacerbation of the disease. In persons still more sensitive, such as those who have urticaria, the sudden change of going in winter from the usually warm sitting-room to a cold bedroom will often determine an attack.

LOCAL TREATMENT.

I have pointed out the line of the local treatment for the several affections which we have been considering as we went along, and there only remain a few general principles to consider. One is that in all acute inflammations the applications should be continuous. An ointment or a lotion applied for a few moments two or three times a day will be seldom of any service except for a slight inflammation. The continuous application insures that the medicament should be in the closest contact with the diseased surface, that the part should be guarded against external microbic invasion, that it should be protected from air and water, and that it should be, to a great extent, at rest and at an even temperature. Continuous applications must necessarily be of a mild character or they will increase the inflammation, lead, zinc, or what the Germans call indifferent applications, such as simple unguents and oil, being the kind of medicaments chiefly employed.

Most microbicides, such as tar, mercury and silver salts, chrysarobin, ichthyol, &c., are more or less irritants and should be applied for a short time only and of a dilution adapted to the intensity of the inflammation irrespective of its name, and it is often safer to try the application on a small area at first until the right strength and best form of application have been ascertained.

These drugs can often be combined with soothing astringents, such as zinc oxide or zinc oleate, to mitigate any irritant action, and it is by no means to be inferred that the stronger the proportion of the most active ingredient the more beneficial will be the prescription. In the case of chrysarobin, for instance, such almost homœopathic proportions as from one to five grains of chrysarobin to an ounce of zinc ointment will act admirably in some subacute cases of eczema or in the more acute forms of psoriasis, while in stronger proportions the disease would be aggravated. The same may be said of many tar preparations. In chronic indurated patches higher proportions may be necessary. In the case of tar in the milder forms of eczema, while it is often one of the most efficacious remedies we possess, so much so that one gentleman of high repute in dermatology acknowledges that tar and lead lotion is his one remedy for all forms of eczema, the proportion only varying to each other and to the dilution, yet tar is one of the most difficult remedies to be sure of its suiting in cases of eczema, a premature use or too strong a proportion lighting up again an inflammation just when it seemed to be subsiding satisfactorily. It should, therefore, be ordered in small quantities at first and in a small area and for a short time, in cases of eczema, while in psoriasis it can be adapted to almost every case by a little management and even be used at the full strength of the Pharmacopœial liquor picis carbonis, if a soothing lotion be immediately and continuously applied afterwards.

In choosing a local remedy it is necessary to have a definite aim. Is it the hyperæmia that is to be subdued, the exudation to be dried up, the suppuration to be stopped? or is it some micro-parasite that it is to be destroyed without increasing the inflammation? Then the extent of the area affected is to be taken into consideration, as the medicament might be like mercury or pyrogallie acid, dangerous if applied to a large region, though quite adapted for a small area.

Further, there is a complicating factor: it is not possible to predict, unless from previous experience of the patient—viz., idiosyncrasies to certain drugs, either external or internal, and the variable reaction to remedies of certain skins. This is especially common in the acute forms of eczema—a remedy which is like a balmy breeze to the majority of patients, acting like the blast of a furnace to some others in whom the character of the inflammation

appears to be precisely similar. No doubt experience diminishes the number of such mistakes, but the most experienced have many humiliations to put up with in this connection. It is for this reason if for none other that it is wiser never to start with strong remedies but to work up to them as the knowledge of the patient's peculiarities increases.

Many of the indications can be successfully met by recognising the character of the inflammation without making an exact diagnosis, an acute psoriasis and a subacute eczema, for instance, often requiring the same local treatment, but in others an accurate diagnosis is essential, as in the inflammation excited by scabies in clean people, which is so often erroneously treated as an eczema, or in not recognising that impetigo contagiosa is secondary to some previous itching lesion, such as urticaria, prurigo, animal parasites, &c. It is, however, often desirable and even necessary to remove the secondary lesions first, in order to pave the way for the most effectual means for the primary eruption.

GENERAL DEDUCTIONS.

The general deductions which may be drawn from the subject we have been considering are :—That a large proportion of inflammatory diseases of the skin are of compound origin. That there is frequently a microbic element, and that this too may consist of more than one kind of microbe superimposed on another, such as the staphylococcus aureus on the streptococcus pyogenes, the staphylococcus on the seborrhœic micro-bacillus, the seborrhœic micro-bacillus on the bottle bacillus, &c. That not only do these several mixtures produce different forms of dermatitis, but that even the same microbe may produce different forms according to its mode of implantation in the skin. That the microbic element generally requires a suitable soil for its successful implantation and propagation. That this soil varies with the age of the individual, the kind of skin he possesses, of which the modifications may be congenital or acquired, and certain of the tissue proclivities are probably hereditary. That intestinal and probably other visceral toxins and ptomaines play an important and often unsuspected part in producing many forms of eruption, and even that many supposed gouty eruptions are really of toxin origin from the generally present intestinal catarrh. That many of these toxins act through the vaso-motor nerves.

central or peripheral, rather than directly on the skin, though they may act directly on that also. That the central nervous system acts chiefly as a controlling influence over the sympathetic system as regards the intensity of the eruption. That with very few exceptions the nervous system, whether vaso-motor or cerebral, exercises but little influence on the character of the eruption though it does on its distribution and intensity. That the character of the eruption is mainly due to individual peculiarities or proclivities, of which we can often only chronicle the result without being able to explain it. That while with apparently the same etiology different eruptions may ensue in different individuals, in recurring eruptions in the same individual there is remarkable constancy in the characters of the eruption and in its time, place, and mode of development. That many general eruptions are for a long or short time of local origin, occupying only a small area before generalisation. That other serious affections start from apparently trivial causes, such as seborrhœa, a superficial pustule, &c., and that it is important, therefore, to treat affections of the skin in as early a stage as possible, as most inflammatory eruptions have a much greater tendency to further development than they have to spontaneous involution. That the principles of treatment depend on the due appreciation of the relative importance in any one case of the microbic, the personal, the nervous system, and the toxic elements; and that so far as our knowledge extends the general principles of medicine apply to them, but that inasmuch as our power of estimation is often at fault, we have to fall back on certain so-called specifics which experience has shown to be of service in certain conditions. That the most reliable and comprehensive specifics are arsenic, salicin, thyroid, quinine in large doses, and iodide of potassium; the first two have a very wide range as compared to any others. That except as regards pustular eruptions and those demonstrably of micro-parasitic origin, the character of the local treatment depends comparatively little on the diagnosis of the particular kind of dermatitis, the extent, intensity, and localisation of the inflammation being the most important elements. That in employing microbicide treatment in superficial and widespread eruptions the microbicide should not be irritating, or at least be capable of being at once neutralised, otherwise the increased inflammation set up defeats the aim of the therapist and affords a favourable soil for further microbic development. It is in comparatively few circumscribed microbic diseases, such as

impetigo contagiosa, boils, and carbuncles that the microbicide is the sole curative agent. That in all widespread forms of dermatitis rest and equability of temperature are the most important and often the essential curative means. Finally, that in proportion as we study diseases of the skin in the same manner as we study diseases of other organs, we shall find that their treatment can be carried out successfully on the sound basis of pathology, and that specifics will occupy a diminishing space in our armamentarium.

The statistics which I gave you in my first lecture show that the task of acquiring the power of diagnosis such as every practitioner should possess is not difficult in the majority of instances, as three-fourths of all cases of dermatitis are comprised under a very small number of diseases, but a considerable practical experience is necessary to grapple successfully with the variations which even these few common diseases present according to the several conditions we have already discussed; but attention to these points will gradually make this easier and will bring success, which will add interest to the further study of a class of diseases which is a sealed book to many otherwise well-informed medical men, because they have not started on their investigation in a systematic manner.

I trust that this brief *résumé* that I have given of a wide subject, will be of some assistance to a serious study of the inflammations of the skin, which will well repay the time spent upon it both by yourselves and him whom I must now call "your late Lettsomian lecturer."



